

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF MICHIGAN  
SOUTHERN DIVISION**

I.E.E. INTERNATIONAL ELECTRONICS &  
ENGINEERING, S.A. and IEE SENSING, INC.,

Plaintiffs/Counter-Defendants,

Case No. 10-13487

Hon. Gerald E. Rosen

v.

TK HOLDINGS INC. and TAKATA A.G.,

Defendants/Counter-Plaintiffs.

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**OPINION AND ORDER REGARDING  
CROSS-MOTIONS FOR SUMMARY JUDGMENT**

At a session of said Court, held in  
the U.S. Courthouse, Detroit, Michigan  
on October 23, 2014

PRESENT: Honorable Gerald E. Rosen  
Chief Judge, United States District Court

**I. INTRODUCTION**

Plaintiffs I.E.E. International Electronics & Engineering, S.A. and IEE Sensing, Inc. (collectively “IEE” or “Plaintiffs”) commenced this action in this Court in September of 2010, alleging that Defendants TK Holdings Inc. (“TKH”) and Takata A.G. (“TKAG”) have infringed one or more claims of a patent owned by Plaintiffs, U.S. Patent No. 7,656,169 (the “‘169 Patent”), and also seeking declarations that Plaintiffs have not infringed certain patents owned by Defendant TKH — *i.e.*, U.S. Patent No. 6,577,023 (the “‘023 Patent”), U.S. Patent No. 6,825,765 (the “‘765 Patent”), U.S. Patent No.

7,180,306 (the “‘306 Patent”), and U.S. Patent No. 7,098,674 (the “‘674 Patent”) — or, alternatively, that TKH’s patents are invalid on one or more grounds. Defendants, in turn, have filed counterclaims against Plaintiffs, alleging that Plaintiffs have infringed one or more claims of the ‘023 Patent, the ‘765 Patent, the ‘674 Patent, and the ‘306 Patent, and seeking declarations that Defendants have not infringed the ‘169 Patent or, alternatively, that this patent is invalid on a number of grounds. This Court’s subject matter jurisdiction over this case rests upon the parties’ assertion of claims arising under federal patent law. *See* 28 U.S.C. § 1338(a).

Through the present cross-motions, each of the parties in this case seeks an award of summary judgment in its favor on one or more of the claims it has asserted and/or the claims asserted against it. First, Plaintiffs seek rulings as a matter of law (i) that they have not infringed, either directly or indirectly, any of the four patents owned by Defendant TKH, and (ii) that Defendants have infringed claims 1, 10, 13, and 15 of the ‘169 Patent. Next, Defendant TKH requests an award of summary judgment in its favor as to (i) the invalidity of claims 1, 10, 15, and 16 of the ‘169 Patent on a number of grounds, (ii) Plaintiffs’ infringement of certain claims of the ‘306 and ‘674 Patents, either directly or under a theory of induced or contributory infringement, and (iii) Plaintiffs’ purported failure to produce evidence in support of their challenges to the validity of the ‘306 and ‘674 Patents. Finally, Defendant TKAG moves for rulings as a matter of law (i) that one or more claims of the ‘169 Patent are invalid on various grounds, and (ii) that the

accused TKAG products do not infringe claims 1, 6, or 10 of the ‘169 Patent.<sup>1</sup>

Each of these three summary judgment motions has been fully briefed by the parties. Having carefully and thoroughly reviewed the parties’ extensive briefing on their motions, as well as the voluminous record accompanying these motions, the Court finds that the relevant facts, legal issues, and authorities are sufficiently presented in these written submissions, and that oral argument would not aid the decisional process. Accordingly, the Court will decide the parties’ motions “on the briefs.” *See* Local Rule 7.1(f)(2), U.S. District Court, Eastern District of Michigan. This opinion and order sets forth the Court’s rulings on these motions.

## **II. FACTUAL AND PROCEDURAL BACKGROUND**

### **A. The Parties**

Plaintiff I.E.E. International Electronics & Engineering, S.A. is a corporation organized under the laws of Luxembourg with its headquarters located in Contern, Luxembourg. Plaintiff IEE Sensing, Inc. is a subsidiary of I.E.E. International that is organized under the laws of Delaware and headquartered in Auburn Hills, Michigan.<sup>2</sup>

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<sup>1</sup>There is a degree of overlap in the summary judgment motions brought by Defendants TKH and TKAG, and TKAG’s motion incorporates by reference certain of the arguments advanced by TKH in its earlier-filed motion. The separate filings of the two Defendants are a product of a significant delay in Plaintiffs’ service of the complaint on Defendant TKAG, a German corporation. In light of this delay, the Court established a separate calendar of dates and deadlines governing Plaintiffs’ claims against TKAG, including a later date by which this Defendant could file any desired dispositive motions. The two Defendants then filed separate summary judgment motions on the respective due dates set by the Court.

<sup>2</sup>As noted earlier, the Court will refer to the two Plaintiffs collectively as “IEE” or as “Plaintiffs” throughout the remainder of this opinion.

Plaintiff I.E.E. International is the owner by assignment of U.S. Patent No. 7,656,169 (the “169 Patent”).

Defendant TK Holdings Inc. (“TKH”) is a Delaware corporation with its principal places of business located in Greensboro, North Carolina and Auburn Hills, Michigan. Defendant Takata A.G. (“TKAG”) is a corporation organized under German law with its headquarters located in Aschaffenburg, Germany. Both TKH and TKAG are subsidiaries of Takata Corporation, a Japanese corporation. Defendant TKH is the owner by assignment of U.S. Patent No. 6,577,023 (the “023 Patent”), U.S. Patent No. 6,825,765 (the “765 Patent”), U.S. Patent No. 7,180,306 (the “306 Patent”), and U.S. Patent No. 7,098,674 (the “674 Patent”).

## **B. The Technology At Issue and Patents-In-Suit**

Each of the four parties to this suit is a supplier to the automotive industry, and Plaintiffs and Defendants are competitors in the sale of occupant sensors to auto manufacturers. In the automotive setting, information from an occupant sensor is most commonly used to deactivate a front passenger air bag in certain situations — for example, when the vehicle seat is occupied by an infant car seat rather than an adult passenger. The patents at issue here concern “capacitive” occupant sensors, which use an electric field to detect the type of occupant sitting on a vehicle seat.

Early occupant sensors determined the type of occupant by measuring weight. Capacitive occupant sensors, in contrast, generate an electric field above the vehicle seat, and detect the type of occupant by measuring an electrical property known as

“capacitance” — that is, the ability of an object to store an electrical charge. Capacitive occupant sensors measure the capacitance of a vehicle seat occupant through the use of a “sense electrode” placed in the seat, and this measurement varies depending on the type of occupant. An adult passenger, for example, interacts more with the electric field (and thus produces a higher capacitance in the sense electrode) than an infant car seat, which is smaller and made largely of a substance (plastic) that is a poor conductor of electricity. By measuring the capacitance of the occupant and comparing this measurement with empirical data, a capacitive occupant sensor can distinguish among different types of occupants and pass this information along for use in air bag deployment.

Neither Plaintiffs nor Defendants claim to have invented the general concept of a capacitive occupant sensor, which dates back to at least the early 1970s. Rather, the patents-in-suit reflect various refinements to capacitive occupant sensors that are intended to counteract potential inaccuracies in the measurement of capacitance due to factors such as a wet vehicle seat or variations in temperature. The invention described in Plaintiffs’ ‘169 Patent, for instance, is intended to achieve more reliable and accurate detection of an occupant even when a vehicle seat is wet. (*See* Plaintiffs’ Motion, Ex. A, ‘169 Patent, Col. 6 at 22-34.) Defendant TKH’s ‘306 Patent incorporates “reference capacitors” that compensate for the effects of environmental conditions such as electromagnetic interference. (*See* Defendant TKH’s Motion, Ex. I, Fultz 4/2/2012 Expert Report at ¶ 49.) And TKH’s ‘674 Patent addresses the concern that a seat heater may interfere with the operation of a capacitive occupant sensor, by placing a “driven shield” between the

sensing electrode and the seat heater in order to block the “noise” emitted by the seat heater. (*See id.* at ¶ 54.)<sup>3</sup>

Plaintiffs and Defendants each offer a capacitive occupant detection system that is alleged to infringe one or more of the opposing party’s patents. Plaintiffs began developing their “BodySense” product in 2005, secured a commitment from General Motors in the summer of 2006 to purchase this product, and began shipping the BodySense product to General Motors in 2008. Defendant TKH began offering its “CS3” product for sale to automobile manufacturers in the spring of 2007, and made its first commercial shipment of this product in July of 2012. Finally, TKH’s sister company, Defendant TKAG, makes capacitive occupant detection systems that are being used in BMW vehicles.

### **C. Procedural Background**

This is not the first suit between these parties concerning their competing capacitive occupant detection systems. In July of 2009, Defendant TKH brought suit against Plaintiffs in the United States District Court for the District of Delaware, alleging that Plaintiffs had infringed three of the four patents asserted in Defendants’ counterclaims in this case. In November of 2009, the parties executed a tolling agreement, under which TKH agreed to dismiss its suit without prejudice while the parties sought to negotiate a settlement. The tolling agreement granted TKH a one-month

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<sup>3</sup>The Court discusses the specific language and claims of the patents-in-suit in greater detail below as pertinent to the arguments advanced in the parties’ motions.

opportunity to reinstate its lawsuit in the event that the parties failed to reach a settlement, but TKH did not exercise this option.

Instead, Plaintiffs commenced the present action in this Court in September of 2010, alleging that Defendant TKH's capacitive occupant detection system infringes the '169 Patent, and seeking a declaration that Plaintiffs' BodySense product does not infringe the '023, '765, '306, and '674 Patents held by TKH. TKH filed counterclaims accusing Plaintiffs' BodySense product of infringing the '023, '765, '674, and '306 Patents, and requesting a declaration that it has not infringed Plaintiffs' '169 Patent or, alternatively, that the '169 Patent is invalid on a number of grounds. When Plaintiffs learned during discovery that TKH's sister company, Defendant TKAG, also was producing a capacitive occupant detection system that allegedly infringes the '169 Patent, Plaintiffs filed an amended complaint naming TKAG as an additional party, and TKAG, in turn, filed a counterclaim against Plaintiffs seeking a declaration that its product does not infringe the '169 Patent or, alternatively, that the '169 Patent is invalid.

### **III. ANALYSIS**

#### **A. The Standards Governing the Parties' Cross-Motions**

Through the three motions presently pending before the Court, Plaintiffs and Defendants seek an award of summary judgment in their favor on a number of the claims and counterclaims asserted in Plaintiffs' complaint and Defendants' counter-complaints.

Under the Federal Rule governing these motions, summary judgment is proper “if the movant shows that there is no genuine issue as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a). As the Supreme Court has explained, “the plain language of Rule 56[] mandates the entry of summary judgment, after adequate time for discovery and upon motion, against a party who fails to make a showing sufficient to establish the existence of an element essential to that party’s case, and on which that party will bear the burden of proof at trial.” *Celotex Corp. v. Catrett*, 477 U.S. 317, 322, 106 S. Ct. 2548, 2552 (1986).

To the extent that the parties seek an award of summary judgment in their favor on an issue as to which they bear the burden of proof — *e.g.*, a claim that the opposing party’s product infringes a patent, or that a patent asserted by the opposing party is invalid — the moving party’s “showing must be sufficient for the court to hold that no reasonable trier of fact could find other than for the moving party.” *Calderone v. United States*, 799 F.2d 254, 259 (6th Cir. 1986) (internal quotation marks, citation, and emphasis omitted). Regardless of the allocation of the burden of proof, the central issue under Rule 56 is “whether the evidence presents a sufficient disagreement to require submission to a jury or whether it is so one-sided that one party must prevail as a matter of law.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 251-52, 106 S. Ct. 2505, 2512 (1986).

In deciding a motion brought under Rule 56, the Court must view the evidence “in a light most favorable to the party opposing the motion, giving that party the benefit of all reasonable inferences.” *Smith Wholesale Co. v. R.J. Reynolds Tobacco Co.*, 477 F.3d



854, 861 (6th Cir. 2007). Yet, the nonmoving party may not rely on bare allegations or denials, but instead must support a claim of disputed facts by “citing to particular parts of materials in the record, including depositions, documents, electronically stored information, affidavits or declarations, stipulations . . . , admissions, interrogatory answers, or other materials.” Fed. R. Civ. P. 56(c)(1)(A). Moreover, any supporting or opposing affidavits “must be made on personal knowledge, set out facts that would be admissible in evidence, and show that the affiant or declarant is competent to testify on the matters stated.” Fed. R. Civ. P. 56(c)(4). Finally, “[a] mere scintilla of evidence is insufficient” to withstand a summary judgment motion; rather, “there must be evidence on which the jury could reasonably find for the non-moving party.” *Smith Wholesale*, 477 F.3d at 861 (internal quotation marks and citation omitted).

**B. Defendants Have Failed to Establish Any of Their Challenges to the Validity of Plaintiffs’ ‘169 Patent.**

**1. The Standards Governing Defendants’ Invalidity Challenges**

In their two summary judgment motions, Defendants TKH and TKAG contend that Plaintiffs’ ‘169 Patent is invalid as anticipated, as obvious, and for failure to name an inventor who purportedly contributed to one or more of the patent’s claims. To establish that the asserted claims of the ‘169 Patent are invalid as anticipated under 35 U.S.C. § 102, Defendant must point to a single prior art reference or prior invention that “disclose[s] every limitation of the claimed invention, either explicitly or inherently.” *Mehl/Biophile International Corp. v. Milgraum*, 192 F.3d 1362, 1365 (Fed. Cir. 1999)

(internal quotation marks and citation omitted). Because a patent is accorded a statutory presumption of validity, *see* 35 U.S.C. § 282(a), Defendants must prove by clear and convincing evidence that the ‘169 Patent is invalid under one or more of the subsections of § 102. *See American Seating Co. v. USSC Group, Inc.*, 514 F.3d 1262, 1267 (Fed. Cir. 2008). “Although anticipation under 35 U.S.C. § 102 is a question of fact, it may be decided on summary judgment if the record reveals no genuine dispute of material fact.” *Golden Bridge Technology, Inc. v. Nokia, Inc.*, 527 F.3d 1318, 1321 (Fed. Cir. 2008).

Next, to establish that the asserted claims of the ‘169 Patent are invalid as obvious, Defendants must show that “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103(a).<sup>4</sup> Under § 103, the central inquiry is “whether the combined teachings of the prior art, taken as a whole, would have rendered the claimed invention obvious to one of ordinary skill in the art.” *In re Napier*, 55 F.3d 610, 613 (Fed. Cir. 1995). Yet, in conducting this inquiry, the Court must take

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<sup>4</sup>The quoted language is from § 103 as this statute read at the time this suit was filed in 2010. Section 103 — as well as § 102, which is quoted and discussed below — was extensively revised in 2011 as part of the America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284. The AIA expressly provides, however, that these revisions take effect only 18 months after the date of the AIA’s enactment — *i.e.*, on March 16, 2013, 18 months after the AIA was enacted on September 16, 2011 — and that the amendments to § 102, § 103, and a number of other statutory provisions apply only to patents and patent applications with an effective filing date on or after March 16, 2013. Pub. L. No. 112-29, § 3(n)(1), 125 Stat. 293; *see also* 35 U.S.C. § 100 (note). Consequently, the AIA amendments do not apply here, and the Court — like the parties in their briefs — will cite to and quote from the pertinent statutory provisions as they read prior to the enactment of the AIA.

care not to engage in “hindsight recreation” of the subject patent from the prior art. *Al-Site Corp. v. VSI International, Inc.*, 174 F.3d 1308, 1325 (Fed. Cir. 1999). Rather, Defendants must “show some motivation or suggestion to combine the prior art teachings,” either in the prior art itself or by reasonable inference “from the nature of the problem or occasionally from the knowledge of those of ordinary skill in the art.” *Al-Site Corp.*, 174 F.3d at 1323-24. While the obviousness inquiry “rests on underlying factual determinations,” *Al-Site Corp.*, 174 F.3d at 1323, the “ultimate judgment of obviousness is a legal determination,” *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 427, 127 S. Ct. 1727, 1745 (2007). Thus, where “the content of the prior art, the scope of the patent claim, and the level of ordinary skill in the art are not in material dispute, and the obviousness of the claim is apparent in light of these factors, summary judgment is appropriate.” *KSR International*, 550 U.S. at 427, 127 S. Ct. at 1745-46.

Defendants’ final challenge to the validity of the ‘169 Patent rests upon the statutory command that “[w]hen an invention is made by two or more persons jointly, they shall apply for patent jointly.” 35 U.S.C. § 116(a). In accordance with this mandate, the courts have held that “[a] patent is invalid if more or fewer than the true inventors are named.” *Gemstar-TV Guide International, Inc. v. International Trade Comm’n*, 383 F.3d 1352, 1381 (Fed. Cir. 2004). Once again, however, the statutory presumption of patent validity gives rise to a corollary “presumption that the named inventors on a patent are the true and only inventors,” *Gemstar-TV Guide International*, 383 F.3d at 1381, so that “a party alleging non-joinder [of an inventor] must meet the heavy burden of proving its case

by clear and convincing evidence,” *Nartron Corp. v. Schukra U.S.A., Inc.*, 558 F.3d 1352, 1356 (Fed. Cir. 2009) (internal quotation marks and citation omitted).

**2. Defendants Have Failed to Demonstrate as a Matter of Law That TKH’s 1.5 Prototype Was Used in Public or Was Not Concealed, Such That It Qualifies as Prior Art Under 35 U.S.C. §§ 102(a) or 102(g).**

Defendants’ first challenge to the validity of Plaintiffs’ ‘169 Patent rests on the contention that Defendant TKH developed and publicly used a occupant detection prototype, known as the “1.5 Prototype,”<sup>5</sup> that constitutes prior art under either 35 U.S.C. §§ 102(a) or 102(g), and thereby invalidates the ‘169 Patent. As discussed below, however, the Court finds that issues of fact remain as to whether TKH’s 1.5 Prototype meets the standards for prior art set forth in subsections (a) and (g) of § 102.

Under § 102(a), a patent may not issue if “the invention was known or used by others in this country . . . before the invention thereof by the application for patent.”<sup>6</sup> The courts have held, and the parties here agree, that the “use[]” referenced in § 102(a) “must be accessible to the public.” *Minnesota Mining & Manufacturing Co. v. Chemque, Inc.*, 303 F.3d 1294, 1301 (Fed. Cir. 2002); *see also Woodland Trust v. Flowertree Nursery, Inc.*, 148 F.3d 1368, 1370 (Fed. Cir. 1998) (“[I]n order to invalidate a patent based on

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<sup>5</sup>As noted by Plaintiffs, Defendants failed to produce a 1.5 Prototype during the TKH phase of discovery, but instead advised Plaintiffs’ counsel that all such devices apparently were disposed of at some undetermined point after their use in May of 2006. A 1.5 Prototype subsequently was located at a TKAG facility during the TKAG phase of discovery, and was made available to Plaintiffs for inspection.

<sup>6</sup>As noted earlier, the quoted language is from the version of § 102(a) that was in effect prior to the enactment of the AIA.

prior knowledge or use, that knowledge or use must have been available to the public.”). Because the application for the ‘169 Patent was filed on February 6, 2007, Defendants’ appeal to § 102(a) must rest on a showing that TKH’s 1.5 Prototype was publicly used prior to that date.

In an effort to make this showing of public use, Defendants point to the deposition testimony of a TKH employee, Phillip Maguire, regarding a “mini-clinic” conducted by TKH in May of 2006 at which the 1.5 Prototype was placed in vehicle seats and used with different types of occupants, including humans, test dummies, and infant car seats. Specifically, Mr. Maguire testified that this mini-clinic was “held in a rented space adjacent to [TKH’s] building,” that the individuals who served as the “occupants” during the mini-clinic were recruited and paid by an outside agency, rather than by TKH directly, and that the 1.5 Prototype was “demonstrated . . . to customers” — in this case, Ford Motor Company — at this mini-clinic. (Defendant TKH’s Motion, Ex. H, Maguire Dep. at 57-58, 67-68.)<sup>7</sup> Mr. Maguire further testified that the individuals hired to sit in the vehicle seats containing the 1.5 Prototype could “come and go as they chose” and could “see their own data” as they sat in the seats, and that “in general” the participants in these clinics were told that the occupant detection prototype included “an electrode that’s sensing current” that would generate results on a screen as they sat down on a vehicle seat. (*Id.* at 67-68.) In Defendants’ view, this testimony establishes that the 1.5 Prototype

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<sup>7</sup>Mr. Maguire explained that the May 2006 event was viewed as a “mini-clinic” because “we didn’t have the [number] of occupants you might have for a full clinic.” (*Id.* at 57.)

was “publicly disclosed” and “publicly used” in May of 2006, several months before the date of the invention disclosed in the ‘169 Patent. (Defendant TKH’s Motion, Br. in Support at 5-6.)

The record put forward by TKH, however, falls well short of demonstrating as a matter of law — much less by clear and convincing evidence — that the May 2006 mini-clinic qualifies as a public use of the 1.5 Prototype that could invalidate the ‘169 Patent. As evidenced in case law cited by Plaintiffs and Defendants alike, the “public use” needed to satisfy § 102(a) has been described as encompassing “use[] by an individual other than the inventor under no limitation, restriction, or obligation of confidentiality.” *American Seating Co.*, 514 F.3d at 1267; *see also Baxter International, Inc. v. Cobe Laboratories, Inc.*, 88 F.3d 1054, 1058 (Fed. Cir. 1996). In *Baxter International*, 88 F.3d at 1058-59, for example, the Federal Circuit held that a scientist had publicly used a centrifuge where “[h]is laboratory was located in a public building,” others (including both co-workers and outside visitors) “came into his laboratory and observed the centrifuge in operation,” and “[t]hose who observed the centrifuge in operation were under no duty to maintain it as confidential.” Defendants assert that the record here likewise demonstrates that the May 2006 mini-clinic “involved members of the public, none of who[m] signed any ‘confidentiality provisions’” prohibiting them from disclosing what they observed. (Defendant TKH’s Motion, Br. in Support at 6; *see also* Defendant TKH’s Reply Br. at 1 (describing the mini-clinic as entailing use of the 1.5 Prototype “in the open by members of the public”).)

This assertion, to put it charitably, overstates and mischaracterizes a record that is far from definitive on the question of public access to the 1.5 Prototype. First, it is problematic to look to the testimony of Mr. Maguire in order to determine whether the mini-clinic participants may be characterized as “members of the public,” where he conceded that he “was not the main person running the clinic.” (Maguire Dep. at 68.) Even more to the point, Mr. Maguire explained that the clinic participants were recruited by an outside agency, rather than TKH, so that he presumably would not have been in a position to say — and, in fact, offered no such definitive statement at his deposition — whether this outside agency required the participants to sign a non-disclosure agreement or otherwise insisted that they not share what they learned with members of the general public. (*Id.* at 57, 67.)<sup>8</sup> Certainly, nothing in the record before the Court indicates that

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<sup>8</sup>There is a notable evolution in TKH’s position on this point between its initial brief in support of its summary judgment motion and its reply brief. In its initial brief, TKH states that “[t]he public use of the 1.5 Prototype at the Ford ‘mini-clinic’ involved members of the public, none of who[m] signed any ‘confidentiality provisions.’” (Defendant TKH’s Motion, Br. in Support at 6 (citing Maguire Dep. at 57-58).) Despite TKH’s use of quotation marks, however, the phrase “confidentiality provisions” does not appear anywhere in the cited pages of Mr. Maguire’s deposition, nor elsewhere in the excerpts of his testimony that accompanied TKH’s motion.

In its reply brief, in contrast, TKH asserts that the participants at the mini-clinic were “members of the general public,” and that TKH’s “*standard practice* was to not require confidentiality agreements.” (Defendant TKH’s Reply Br. at 2 n.2 (emphasis added) (citing Maguire Dep. at 67-68, 102-03).) In support of this latter proposition concerning TKH’s usual practice, however, TKH cites to passages from Mr. Maguire’s deposition that it failed to provide to the Court as an exhibit to its reply brief. Elsewhere in his deposition, Mr. Maguire testified to his “belie[f]” that clinic participants are not “required to sign a non-disclosure [agreement],” adding that “I’m not an expert in that area, but I don’t believe we require that.” (Maguire Dep. at 67-68.) Even crediting Mr. Maguire’s testimony to its greatest possible extent — with regard to a matter admittedly beyond his personal knowledge and as to which he offered only his bare “belie[f]” — his limited understanding of TKH’s “standard practice” has little or no apparent

Mr. Maguire had any such personal knowledge as to the practices of the outside agency that actually lined up the participants for the May 2006 mini-clinic. As Plaintiffs observe, and as Defendants concede (at least implicitly), any such obligation of confidentiality owed by the mini-clinic participants would negate Defendants' claim that the 1.5 Prototype was accessible to the public, *see, e.g., American Seating Co.*, 514 F.3d at 1267; *Baxter International*, 88 F.3d at 1058, and the silence in the record on this point does not permit the Court to decide this question in Defendants' favor as a matter of law.

Moreover, even if the mini-clinic participants were free to disclose what they saw and learned to members of the general public, the case law suggests that a grant of limited access that fails to disclose the inner workings and novel elements of a device might not qualify as a public use. In *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1549 (Fed. Cir. 1983), for instance, non-party Budd purchased a machine from an individual named John W. Cropper, and then "told its employees the Cropper machine was confidential and required them to sign confidentiality agreements." Apart from the use of the machine by Budd employees who were "legally bound to keep their knowledge confidential," Budd also arranged for employees of another company, du Pont, to view the machine "to see if they could help increase its speed." *W.L. Gore*, 721 F.2d at 1549.

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bearing upon the question at hand — *i.e.*, whether the **outside agency** that recruited the clinic participants instructed these participants not to publicly share what they learned or observed. (*See id.* at 101-03 (Mr. Maguire concedes that he "wasn't involved in soliciting" the clinic participants and did not know the terms under which the outside agency engaged these individuals).) The record is wholly silent on this question, notwithstanding the obfuscations of TKH and its counsel regarding the testimony of the pertinent witness.



The Federal Circuit found that this grant of access to du Pont employees did not qualify as public use of the Cropper machine, where there was “no evidence that a viewer of the machine could thereby learn anything of which process, among all possible processes, the machine is being used to practice.” 721 F.2d at 1549.

Similarly, in this case, Defendants suggest no reason to believe that the mini-clinic participants who sat in vehicle seats containing the 1.5 Prototype “thereby learn[ed] anything” about the operation of this prototype. As Mr. Maguire acknowledged at his deposition, while clinic participants were told “in general” that the 1.5 Prototype operated by means of “an electrode that’s sensing current” and were shown “the results” when they sat down in vehicle seats, he “would not expect” the participants to be told how the prototype was built or precisely how current was processed to determine what sort of occupant was sitting in the vehicle seat. (Maguire Dep. at 68.)

Defendants insist, however, that the law does not demand this sort of detailed disclosure in order to establish a public use. They point, in particular, to the decision in *Egbert v. Lippmann*, 104 U.S. 333, 336-37 (1881), in which the Supreme Court held that a pair of “corset-steels” were publicly used even though they were hidden within a woman’s corset. In so ruling, the Court observed that “some inventions are by their very character only capable of being used where they cannot be seen or observed by the public eye,” and it explained that so long as a device is “used without restriction of any kind, the use is a public one.” *Egbert*, 104 U.S. at 336. Likewise, while Defendants acknowledge that the occupant detection system at issue here was installed within a vehicle seat and

hidden from view, they nonetheless contend that the clinic participants need not have observed the inner workings of the 1.5 Prototype or obtained detailed information about the manner in which it operated in order for the May 2006 mini-clinic to qualify as a public use of the prototype.

Yet, the case law subsequent to *Egbert* has fleshed out the meaning of the Supreme Court's statement that a "public use" is a "use[] without restriction of any kind," and the courts have looked to such factors as "the skill and knowledge of those observing an invention" in making this determination. *Dey, L.P. v. Sunovion Pharmaceuticals, Inc.*, 715 F.3d 1351, 1355 (Fed. Cir. 2013); *see also Pronova BioPharma Norge AS v. Teva Pharmaceuticals USA, Inc.*, No. 2012-1498, 549 F. App'x 934, 940 (Fed. Cir. Sept. 12, 2013) (considering "the sophistication of those to whom disclosure was made" in deciding whether a device was used without restriction). *Dey* provides a recent illustration of this "use without restriction" inquiry, as the court considered whether the plaintiff's patents for a pharmaceutical product to treat lung disease were invalidated as a result of the defendant's prior clinical trial of an allegedly similar product. *See Dey*, 715 F.3d at 1353-55. The individuals who administered the clinical trial signed confidentiality agreements "directing them to hold all proprietary information in confidence for five years," and they also were "forbidden from disclosing the study protocols or dispensing the drug to any person who was not a trial subject" and "held accountable for securely storing the drug and maintaining records of its disposition and use." 715 F.3d at 1354. The study participants, in turn, "signed a consent form stating

that the medication[] ‘must be taken only by the person for whom it was intended’” and requiring them “to keep usage logs and return unused medications.” 715 F.3d at 1354. The participants, however, “were not prohibited from speaking with others about the study,” but to the contrary were invited to discuss it with their regular physicians. 715 F.3d at 1354.

The district court held that the defendant had established as a matter of law that its clinical trial constituted a public use, but the Federal Circuit disagreed, finding that “[i]mportant issues of fact remain in dispute.” 715 F.3d at 1356. Of particular relevance here, while the district court viewed the record as indicating that the study participants “used the invention as intended,” were “not prevented from using their personal supply of [the medication] however they saw fit,” and made “unfettered use of the composition for weeks at a time,” the Federal Circuit pointed to contrary evidence that the participants “agreed that only they would take the medications” and “promised to keep accurate usage logs and return all unused medication.” 715 F.3d at 1356. In addition, the Court of Appeals noted that while “the participants were permitted to discuss the study with their doctors, they were not in a position to reveal the composition of the allegedly invalidating prior art, because they were unaware of the specifics of the inventive formulations.” 715 F.3d at 1357. Given that “[t]he ‘public use’ inquiry is replete with factual considerations, such as the (disputed) extent to which study participants were informed of and able to disclose the pertinent details of the claimed prior art,” and given the usual summary judgment principle that the record must be viewed in favor of the non-moving plaintiff,

the court held that a reasonable jury could “conclud[e] that the use of [the medication] was sufficiently controlled and restricted, rather than unfettered and public.” 715 F.3d at 1356-57.

In so ruling, the Federal Circuit distinguished the Supreme Court’s decision in *Egbert* as “turn[ing] on the lack of control the inventor maintained over his invention.” 715 F.3d at 1359; *see also Pronova BioPharma Norge*, 549 F. App’x at 940 (explaining that under *Egbert*, “[t]he inquiry is not whether a third person to whom an invention is disclosed makes an open and obvious use of it, but whether the inventor himself has made a use of his invention which is ‘public’ because it was given to a member of the public without restriction”). Thus, the court found that neither *Egbert* nor its progeny “permitted the district court to discount the relevance of the study participants’ limited knowledge of [the medication’s] formulation or to sidestep disputed factual questions about the nature of the allegedly public use.” *Dey*, 715 F.3d at 1359. In light of this limited knowledge and the disputed record as to the degree of control maintained by the defendant during the clinical trial, the court explained that “a reasonable jury could conclude that if members of the public are not informed of, and cannot readily discern, the claimed features of the invention in the allegedly invalidating prior art, the public has not been put in possession of those features.”

*Dey* provides considerable guidance here, and confirms that even if the participants in the May 2006 mini-clinic were not under an express obligation of confidentiality — a question on which, as explained, the record is silent — issues of fact nonetheless would

remain as to whether this mini-clinic constituted a “public use” of TKH’s 1.5 Prototype. In this case, as in *Dey*, there is only limited and far from definitive evidence as to the “extent to which [mini-clinic] participants were informed of and able to disclose the pertinent details of the claimed prior art.” *Dey*, 715 F.3d at 1357. The sum total of this record consists of the testimony of Mr. Maguire, who stated (i) that he “was not the main person running the clinic,” and (ii) that clinic participants are told “in general” that “they’re coupled to an electrode that’s sensing current” and are shown “the results on the screen as [they] sit down,” but (iii) that clinic participants typically “would not” be told how the prototype was built or how it processed the current to determine the type of seat occupant. (Maguire Dep. at 68.)<sup>9</sup> This record simply cannot sustain a determination as a matter of law, especially under the governing clear and convincing standard, that by virtue of outside individuals (with no evident technical background or knowledge) sitting in vehicle seats at the May 2006 mini-clinic, the public was “put in possession” of the “claimed features of the invention” allegedly embodied in the 1.5 Prototype. *Dey*, 715 F.3d at 1359.

Defendants’ claim of public use of the 1.5 Prototype also is defeated by their failure to produce any evidence that corroborates Mr. Maguire’s testimony as to the purportedly public nature of this use. The Federal Circuit adheres to a “well-established”

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<sup>9</sup>As noted earlier, the parties to this suit do not claim to have invented the general concept of a capacitive occupant sensor, nor do Defendants contend that the mere use of a current-sensing electrode was a novel feature that rendered the 1.5 Prototype a patentable invention.

rule that “a party claiming his own prior inventorship must proffer evidence corroborating his testimony.” *Sandt Technology, Ltd. v. Resco Metal & Plastics Corp.*, 264 F.3d 1344, 1350 (Fed. Cir. 2001); *see also Thomson, S.A. v. Quixote Corp.*, 166 F.3d 1172, 1175 (Fed. Cir. 1999) (“[A]n inventor’s testimony alone respecting the facts surrounding a claim of derivation or priority of invention cannot satisfy the clear and convincing standard without corroboration.”); *Woodland Trust*, 148 F.3d at 1371 (“Corroboration of oral evidence of prior invention is the general rule in patent disputes.”). While Defendants suggest that they have provided “abundant corroboration” of Mr. Maguire’s testimony, (Defendant TKH’s Reply Br. at 2), they point exclusively to documents that describe the sorts of tests performed at the May 2006 mini-clinic, list the infant car seats and other sorts of occupants that were placed in vehicle seats during the mini-clinic, and disclose the data gathered in the course of the mini-clinic. (See Defendant TKH’s Reply, Ex. B, Exs. 84, 86, 87 to Maguire Dep.)<sup>10</sup> Nothing in this record corroborates Defendants’ claim, in reliance solely on Mr. Maguire’s testimony, that the mini-clinic constituted a **public use** of the 1.5 Prototype; these documents do not, for example, indicate that the mini-clinic was held in a location open to the public, or that the clinic participants were free to share what they saw and learned. To the contrary, the documents cited by Defendants tend to **undercut** their claim of public use, where the

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<sup>10</sup>These documents evidently were used in TKH’s presentations to auto manufacturers describing the mini-clinic and the results obtained through the use of the 1.5 Prototype.

documents state on their face that they are “[p]rivate and [c]onfidential.”<sup>11</sup>

Nonetheless, Defendants maintain that the Federal Circuit’s insistence upon corroboration encompasses only inventor testimony as to “conception and reduction to practice,” and that “there has never been a corroboration requirement as to the public nature of a use.” (Defendant TKH’s Reply Br. at 2 (footnote omitted).) Yet, the lone case cited by Defendants in support of this contention, *Finnigan Corp. v. International Trade Commission*, 180 F.3d 1354 (Fed. Cir. 1999), draws no such distinction as to particular aspects of an inventor’s testimony that must (or need not) be corroborated. The court began its discussion of the alleged public use in that case with a broad statement of the requirement of corroboration, observing that “[t]he law has long looked with disfavor upon invalidating patents on the basis of mere testimonial evidence absent other evidence that corroborates that testimony.” *Finnigan Corp.*, 180 F.3d at 1366. Later in this discussion, the court rejected an appeal by the defendant International Trade Commission to “certain statements in the case law in support of the proposition that not every aspect of [the inventor’s] testimony needs to be corroborated,” finding that each of the cases cited by the defendant commission addressed the sufficiency of the evidence of corroboration, rather than the threshold need for corroborative evidence. 180 F.3d at 1369-70. The court then concluded its analysis by stating:

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<sup>11</sup>Indeed, as Plaintiffs point out, Defendants have maintained this claim of confidentiality beyond the time frame of the mini-clinic and throughout the present litigation. The purportedly corroborating documents — as well as the transcript of Mr. Maguire’s deposition — have been designated in this litigation as “Confidential - Attorneys’ Eyes Only” and have been filed under seal.

In the end, what we are left with is [the inventor's] testimony concerning his alleged public use. Such evidence is insufficient as a matter of law to establish invalidity of the patent. This is not a judgment that [the inventor's] testimony is incredible, but simply that such testimony alone cannot surmount the hurdle that the clear and convincing standard imposes in proving patent invalidity.

180 F.3d at 1370. Nothing in *Finnigan Corp.*, therefore, relieves Defendants of the obligation to support Mr. Maguire's testimony with corroborative evidence of the public use of TKH's 1.5 Prototype. *See also Sandt Technology*, 264 F.3d at 1350 (stating that the presumption of patent validity "requires those challenging validity to introduce clear and convincing evidence on *all issues* relating to the status of a particular reference as prior art" (emphasis added)); *Delano Farms Co. v. California Table Grape Commission*, 940 F. Supp.2d 1229, 1248 (E.D. Cal. 2013) (opining that the requirement of corroboration applies to testimony "from an accused infringer concerning the sale or public use of an invention before the critical date").

As still another infirmity in Defendants' claim of public use of the 1.5 Prototype, Plaintiffs contend that the record gives rise to issues of fact as to whether the May 2006 mini-clinic constituted "experimental use" of the 1.5 Prototype. The courts have emphasized that use "by way of experiment, and in order to bring the invention to perfection," does not qualify as public use under § 102. *American Seating Co.*, 514 F.3d at 1267 (internal quotation marks and citation omitted); *see also Baxter International*, 88 F.3d at 1059 ("Experimental use negates public use."). In this case, Mr. Maguire himself described the mini-clinic as entailing "testing done with [TKH's] CS3 [product],"



(Maguire Dep. at 57), and one of the documents produced by Defendants to corroborate the existence of this mini-clinic refers to “[t]esting in vehicles,” “[t]esting [that] took place in three CD seats,” the “test[ing]” of infant car seats in both “rear facing and forward facing” positions, the “test[ing] of “[s]mall adults . . . in 24 positions,” and various types of infant car seats that were “[t]ested” in the course of the mini-clinic, (Defendant TKH’s Reply, Ex. B, Ex. 84 to Maguire Dep at 2, 4.). Although Defendant TKH insists — without citation to supporting evidence in the record — that its “use of the Prototype was not experimental,” and that “TKH already knew that the concept [embodied in the prototype] worked,” (Defendant TKH’s Reply Br. at 3), the Court finds that the several references to “testing” in the testimony of TKH’s own employee and in TKH’s own documents is sufficient to raise factual questions that a jury must decide.<sup>12</sup>

In the alternative, Defendants argue that even if they have failed to demonstrate that the May 2006 mini-clinic represented a “use” of the 1.5 Prototype within the meaning of § 102(a), they can nonetheless establish the invalidity of Plaintiffs’ ‘169 Patent under subsection (g) of this statute. To invalidate the ‘169 Patent under § 102(g),

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<sup>12</sup>As Defendants observe, the issue of experimental use is a “question of law.” *Baxter International*, 88 F.3d at 1060. Nonetheless, a number of “[e]videntiary factors” are relevant to the determination whether a use is experimental, including “the length of the test period, whether the inventor received payment for the testing, any agreement by the user to maintain the use [as] confidential, any records of testing, whether persons other than the inventor performed the testing, the number of tests, and the length of the test period in relation to tests of similar devices.” *Baxter International*, 88 F.3d at 1060. The record sheds little light on these and other potentially relevant considerations, and thus does not permit a determination as a matter of law at this juncture whether the use of the 1.5 Prototype at the May 2006 mini-clinic was “experimental” within the meaning of the pertinent case law.

Defendants must show by clear and convincing evidence that before the February 6, 2007 filing date of Plaintiffs' patent, Defendant TKH made its 1.5 Prototype and did not "abandon[], suppress[], or conceal[] it." 35 U.S.C. § 102(g)(2)<sup>13</sup>; *see also Thomson*, 166 F.3d at 1175. As Defendants observe, their failure to sustain their challenge to the '169 Patent under § 102(a) is not fatal to their appeal to § 102(g), as these two subsections set forth separate criteria for determining what qualifies as prior art. *See Thomson*, 166 F.3d at 1175 (explaining that § 102(g) has been interpreted "to permit qualifying art to invalidate a patent claim even if the same art may not qualify as prior art under other subsections of § 102").

Nonetheless, the Court need not linger long over Defendants' appeal to § 102(g), as it is defeated largely on the same grounds discussed earlier as to Defendants' claim of "public use." In opposing Defendants' § 102(g) challenge, Plaintiffs point to the statutory requirement that TKH's 1.5 Prototype must not have been "suppressed" or "concealed." 35 U.S.C. § 102(g)(2). Plaintiffs have the threshold burden to "produce evidence sufficient to create a genuine issue of material fact as to whether [TKH] has suppressed or concealed" its 1.5 Prototype. *Apotex USA, Inc. v. Merck & Co., Inc.*, 254 F.3d 1031, 1037 (Fed. Cir. 2001). Once Plaintiffs have met this burden of production, Defendants "must rebut any alleged suppression or concealment with clear and convincing evidence to the contrary." *Apotex*, 254 F.3d at 1038.

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<sup>13</sup>Again, the quoted language is from § 102(g)(2) as it read before the enactment of the AIA.

The Court finds that Plaintiffs have satisfied their initial burden of production through the evidence that Defendant TKH asserted claims of confidentiality over the documents memorializing the use of the 1.5 Prototype at the May 2006 mini-clinic. The Federal Circuit has held that an inference of suppression or concealment may arise through evidence of a “delay in . . . bringing the knowledge of the invention to the public.” *Apotex*, 254 F.3d at 1038. “Absent a satisfactory explanation for the delay or the presence of other mitigating factors, a prior invention will therefore be deemed suppressed or concealed within the meaning of § 102(g) if, within a reasonable time after completion, no steps are taken to make the invention publicly known.” 254 F.3d at 1039 (internal quotation marks and citation omitted). In this case, Defendant TKH has asserted that the invention embodied in the 1.5 Prototype was conceived, designed, and reduced to practice by the time of the May 2006 mini-clinic. (*See* Defendant TKH’s Motion, Br. in Support at 6 (citing evidence that this prototype was built by January of 2006); *see also* Defendant TKH’s Reply Br. at 3.) Yet, the documents through which TKH presented the results of this mini-clinic to prospective customers uniformly bore such designations as “Private,” “Confidential,” and “Not for Third Party Distribution.” (*See* Defendant TKH’s Reply, Ex. B, Exs. 84, 88 to Maguire Dep.)<sup>14</sup> In addition, and as discussed earlier, Defendants have failed to produce any evidence to support their claim that the mini-clinic participants were “members of the public” who were at liberty to disclose what they

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<sup>14</sup>And, again, Defendants have continued to designate these documents as confidential in this litigation, and have filed them under seal.

observed and learned during the mini-clinic. This record would permit the inference that Defendant TKH took steps to suppress or conceal the 1.5 Prototype, at least around the time of the mini-clinic.

Consequently, Defendants must rebut this inference of suppression or concealment “with clear and convincing evidence to the contrary.” *Apotex*, 254 F.3d at 1038. The requisite showing of public disclosure within a reasonable time may be made through evidence of the filing of a patent application, commercialization of the device, or disclosure in a printed publication. *See Fox Group, Inc. v. Cree, Inc.*, 700 F.3d 1300, 1306 (Fed. Cir. 2012). Here, Defendants point to evidence of steps taken by TKH to commercialize its product, including “developing and testing prototypes, presenting test results and system capabilities to several potential customers, and ultimately selling the invention” to General Motors. (Defendant TKH’s Reply Br. at 4.) Yet, the evidence identified by Defendants is vague and uncertain, at best, as to *when* these commercialization efforts occurred. Moreover, Defendants have not even attempted to marshal this evidence in support of an argument that, as a matter of law, TKH’s commercialization of the 1.5 Prototype constituted the requisite public disclosure of this invention within a reasonable time, and the Court declines to develop such an argument on Defendants’ behalf. Rather, the Court finds that Defendants have failed to establish as a matter of law — particularly under the governing clear and convincing standard — that the 1.5 Prototype qualifies as prior art under either § 102(a) or § 102(g), such that this

prototype could anticipate the asserted claims of Plaintiffs' '169 Patent.<sup>15</sup>

**3. Defendants Have Failed in a Number of Respects to Establish as a Matter of Law That the Asserted Claims of the '169 Patent Are Invalid as Anticipated by the '007 Application, or as Obvious in Light of This Application and Other Prior Art References.**

As their next challenge to the validity of the '169 Patent, Defendants contend that the asserted claims of this patent are either anticipated or rendered obvious in light of various items of prior art. In response, Plaintiffs argue (i) that the references identified by Defendants do not qualify as prior art, (ii) that, in any event, issues of fact remain as to whether these references disclose each of the limitations of the asserted claims of the '169 Patent, and (iii) that Defendants have failed to suggest a reason to combine these prior art references, as necessary to establish obviousness. As discussed below, the Court finds that Plaintiffs have the better of the argument on each of the points raised in their opposition to Defendants' challenge.

The law governing Defendants' claim of anticipation has been set forth earlier in this opinion. Defendants' obviousness challenge, in turn, is governed by 35 U.S.C. § 103, which provides in pertinent part:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

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<sup>15</sup>In light of this ruling, the Court need not reach the question whether the 1.5 Prototype meets every limitation of the asserted claims of the '169 Patent.

35 U.S.C. § 103(a).<sup>16</sup> As observed earlier, while the “ultimate judgment of obviousness is a legal determination,” *KSR International*, 550 U.S. at 427, 127 S. Ct. at 1745, this judgment “rests on underlying factual determinations,” *Al-Site Corp.*, 174 F.3d at 1323. Once again, as with Defendants’ invalidity challenges under § 102, Defendants bear the burden of showing by “clear and convincing evidence” that the asserted claims of the ‘169 Patent are invalid for obviousness. *Al-Site Corp.*, 174 F.3d at 1323.

As the first step in their obviousness challenge, Defendants must identify the relevant universe of prior art, and show that each of these references qualifies as prior art under § 102. The first such reference identified by Defendants is TKH’s patent application no. 2007/0,192,007 (the “‘007 Application”), which was filed on January 26, 2007. (*See* Defendant TKH’s Motion, Ex. I, Ex. 46 to Fultz Expert Report.) Although the ‘007 Application was filed shortly before the February 6, 2007 filing date for the ‘169 Patent, Plaintiffs have produced evidence that the invention embodied in the ‘169 Patent was made at least as early as November 29, 2006, (*see* Plaintiffs’ Response to Defendant TKH’s Motion, Ex. D, 11/29/2006 Memo), and Defendants evidently do not dispute this, at least for purposes of their present summary judgment motions. Standing alone, then, the ‘007 Application does not qualify as prior art with respect to the ‘169 Patent, because it was not filed until after the invention embodied in the ‘169 Patent was made. *See* 35 U.S.C. § 102(e) (providing that a patent may not issue if the invention claimed in the

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<sup>16</sup>Again, the quoted language is from the version of § 103 in effect prior to the enactment of the AIA.

patent was described in “an application for patent . . . by another filed in the United States before the invention by the applicant for patent”).

Nonetheless, Defendants insist that the ‘007 Application does, in fact, constitute prior art under § 102(e) because it “claims priority to provisional application no. 60/762,124, filed January 26, 2006,” (Defendant TKH’s Motion, Br. in Support at 10), a date well before the November 29, 2006 invention date claimed by Plaintiffs. This claim of priority, however, is wholly unsupported by any argument or evidence of any kind. As Plaintiffs correctly observe, “a claim of priority is not self-executing — TKH must prove it.” (Plaintiffs’ Br. in Response to Defendant TKH’s Motion at 11 (citing *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1305-06 (Fed. Cir. 2008)).) Even after Plaintiffs pointed out this lack of support for Defendants’ claim of priority, TKH failed to address this deficiency in its reply brief in support of its summary judgment motion, but instead remained utterly silent on the subject. Accordingly, Defendant TKH has failed to identify a basis for treating the ‘007 Application as prior art under § 102(e), and it follows that TKH cannot succeed in its efforts to invalidate the asserted claims of the ‘169 Patent as either anticipated by the ‘007 Application or as obvious in light of this application and other prior art references.<sup>17</sup>

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<sup>17</sup>To be sure, Defendants eventually got around to addressing Plaintiffs’ objection to their claim of priority with respect to the ‘007 Application, arguing the point in a footnote in TKAG’s brief in support of its motion for summary judgment. (See Defendant TKAG’s Motion, Br. in Support at 21 n.17.) This rather terse footnote, however, comes far too late to rescue the claim of priority advanced in Defendant TKH’s motion, which was filed several months earlier and fully briefed by the time TKAG filed its motion. Accordingly, the Court deems Defendant TKH to have forfeited the claim of priority advanced in its motion, but the Court will consider this

Defendants’ proof is likewise deficient as to a second prior art reference on which they propose to rely, a doctoral dissertation authored by Antoni Ivorra Cano (the “Cano Thesis”). Defendants submit that this reference qualifies as prior art under §§ 102(a) or (b) as a “printed publication.” Yet, “[p]ublic accessibility is the touchstone in determining whether a reference constitutes a ‘printed publication’” under § 102.

*ResQNet.Com, Inc. v. Lansa, Inc.*, 594 F.3d 860, 866 (Fed. Cir. 2010) (internal quotation marks and citation omitted). “A reference is considered publicly accessible if it was disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence[] can locate it.” *In re Lister*, 583 F.3d 1307, 1311 (Fed. Cir. 2009) (internal quotation marks and citation omitted). In the case of dissertations or other materials stored in libraries, the courts have “considered whether the research tools available would have been sufficient to permit an interested researcher to locate and examine the reference,” and have looked to such factors as whether the document was “shelved in the [library] stacks and indexed in the catalog.” *Lister*, 583 F.3d at 1311-12.

In an effort to establish that the Cano Thesis has the requisite public accessibility to qualify as prior art, Defendants have produced a “certificate” from Didac Martínez Trujillo, the director of the “University Services Area” at the Universitat Politècnica de Catalunya in Barcelona, Spain, stating that the Cano Thesis “is complete in our Library

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claim with respect to the new and distinct invalidity challenges advanced in Defendant TKAG’s motion.



and in digital format in an open access repository, at the following link

<http://hdl.handle.net/10803/6333>, since March 2005.” (Defendant TKH’s Motion, Ex. I, Ex. 48 to Fultz Expert Report.) As Plaintiffs observe, however, Mr. Trujillo’s certificate is ineligible for the Court’s consideration in resolving Defendants’ summary judgment motions. First, nothing in this certificate indicates that Mr. Trujillo has personal knowledge of the matter he addresses in his statement — *i.e.*, the availability of the Cano Thesis in an “open access repository” since March of 2005 — or that he is competent to testify on this subject. Fed. R. Civ. P. 56(c)(4); *see also Dole v. Elliott Travel & Tours, Inc.*, 942 F.2d 962, 968 (6th Cir. 1991) (citing and applying this same language as it appeared in an earlier version of Rule 56).<sup>18</sup> In addition, Plaintiffs point to a federal

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<sup>18</sup>The Rule 56 requirements for affidavits or declarations, though well-established and entirely straightforward, have engendered a dispute in the parties’ briefs that has wasted the Court’s resources and is, quite frankly, silly. In their response to Defendant TKAG’s summary judgment motion, Plaintiffs assert that Mr. Trujillo’s certificate is “not admissible on the standards of Rule 56(d) [sic]” because it is “not made on personal knowledge . . . and does not provide any factual basis to show that Mr. Trujillo is competent to testify on the matters stated in the certificate, specifically the status of [the Cano Thesis] in 2005.” (Plaintiffs’ Br. in Response to Defendant TKAG’s Motion at 19.) As further support for this argument, Plaintiffs cite the Sixth Circuit’s ruling in *Dole*, 942 F.2d at 968, which quoted the personal knowledge and competency language that was set forth in Rule 56(e) at the time, but has since been relocated (with modest revisions) to Rule 56(c)(4).

Although it should have been evident to Defendants that Plaintiffs had mistakenly cited subsection (d) rather than (c)(4) of Rule 56, Defendant TKAG nonetheless devotes nearly two pages of its reply brief in support of its summary judgment motion to the proposition that Rule **56(d)** — which governs the situation where a non-movant is unable to justify its opposition to a summary judgment motion — is inapplicable to Mr. Trujillo’s certificate. (*See* Defendant TKAG’s Reply Br. at 12-13.) As part of this discussion, TKAG itself makes a jumble of Rule 56, characterizing *Dole* as addressing the applicability of Rule 56(d), (*see id.* at 12-13), when in fact that case addresses and quotes from Rule **56(e)** (a provision which, as noted above, has been relocated to Rule 56(c)(4)). TKAG’s discussion on this point can only be viewed as disingenuous, and as studiously avoiding Plaintiffs’ well-taken argument as to the shortcomings

statute that permits a matter to be supported or established through an “unsworn declaration [or] certificate,” but only if the person making the statement attests to its truth “under penalty of perjury.” 28 U.S.C. § 1746. Mr. Trujillo’s certificate, however, is unsworn and lacks the attestation demanded by this statute.<sup>19</sup> Accordingly, Defendants

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of Mr. Trujillo’s certificate.

<sup>19</sup>Plaintiffs further object that Mr. Trujillo’s certificate should be disregarded, at least for purposes of deciding Defendant TKH’s motion, due to TKH’s failure to name Mr. Trujillo on its preliminary or final witness lists. Plaintiffs have lodged the same objection as to the declaration of Marilyn McSweeney, an employee of the Massachusetts Institute of Technology Libraries, who has attested to the public availability of another prior art reference, a doctoral dissertation written by Joshua Reynolds Smith (the “Smith Thesis”), but who likewise was not named on TKH’s witness lists. (Both of these individuals, however, were named on TKAG’s preliminary and final witness lists.)

In response to these objections, TKH insists that there was no need to name Mr. Trujillo or Ms. McSweeney as witnesses, since these individuals have been asked only to “authenticat[e]” prior art references that were disclosed to Plaintiffs in discovery. (Defendant TKH’s Reply Br. at 6 n.12, 7 & n.14.) Yet, Mr. Trujillo’s certificate and Ms. McSweeney’s declaration do more than merely authenticate the Cano and Smith references; they also serve as TKH’s (sole) proof that these references qualify as publicly accessible “printed publications” under § 102. Absent some sort of stipulation or admission, TKH must be prepared to prove the eligibility of these alleged prior art references at trial, yet it evidently has failed to name any witnesses who could supply the requisite proof.

To be sure, TKH sought to elicit such admissions from Plaintiffs during discovery, but Plaintiffs objected on the ground that TKH’s requests for admissions were directed to a question of law — namely, whether a given reference constitutes a “printed publication.” Plaintiffs further stated that they lacked sufficient knowledge or information to ascertain whether the references at issue were publicly accessible. While TKH now complains that the grounds for Plaintiffs’ objections and denials were “improper[]” and “unreasonabl[e],” (Defendant TKH’s Reply Br. at 5, 6 n.12), it made no effort during discovery to challenge the sufficiency of Plaintiffs’ responses under Fed. R. Civ. P. 36(a)(6), and it is now too late to do so. Equally unavailing is TKH’s complaint that Plaintiffs opposed its effort to depose Ms. McSweeney, (*see* Defendant TKH’s Reply Br. at 7 n.14), because TKH once again failed to bring this matter before the Court at a time when appropriate relief could have been awarded. Indeed, TKH acknowledges that the Court denied Plaintiffs’ motion for a protective order to halt Ms. McSweeney’s deposition, (*see id.*), but TKH nonetheless failed to pursue this matter and seek relief, if necessary, to ensure that the deposition went forward. Consequently, the Court agrees

have failed to produce cognizable evidence that the Cano Thesis is a publicly accessible “printed publication” within the meaning of §§ 102(a) or (b).

Even assuming, despite these various deficiencies of proof, that the ‘007 Application, the Cano Thesis, and the Smith Thesis all qualify as prior art, the Court finds that issues of fact preclude a determination as a matter of law that the ‘169 Patent is invalid as obvious in light of these prior art references. In their present pair of motions, Defendants contend that claims 1, 6, 15, and 16 of the ‘169 Patent are invalid as obvious as a result of a combination of TKH’s ‘007 Application and either the Smith Thesis or the Cano Thesis. First, while Defendants acknowledge that the ‘007 Application does not “explicitly disclose the clocked rectifier” that is included as a limitation in each of claims 1, 6, 15, and 16, (*see* Defendant TKH’s Motion, Br. in Support at 11), they nonetheless contend that both the Smith Thesis and the Cano Thesis disclose a clocked rectifier for use in a capacitive sensing system. Accordingly, Defendants and their expert, Dr. William W. Fultz, submit that all of the elements of claims 1, 6, 15, and 16 are present in a combination of the ‘007 Application and either the Smith Thesis or the Cano Thesis. (*See* Defendant TKH’s Motion, Ex. I, Fultz 4/2/2012 Expert Report at ¶¶ 159, 162-64, 166; Exs. 56, 57 to Fultz 4/2/2012 Expert Report (claim charts); Defendant TKAG’s Motion, Ex. F, Fultz 4/22/2013 Expert Report at ¶¶ 106, 109-111, 113; Exs. 33, 34 to

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with Plaintiffs that TKH (but not TKAG) is precluded from establishing the prior art status of the Cano Thesis and the Smith Thesis, in light of TKH’s failure to name witnesses who would be in a position to testify that these references qualify as “printed publications” under §§ 102(a) or (b).

Fultz 4/22/2013 Expert Report (claim charts).)

In response, Plaintiffs and their expert, Thomas G. Matheson, Ph.D., first dispute the assertion of Defendants and their expert that the Cano Thesis discloses a clocked rectifier.<sup>20</sup> In particular, while Defendants read the Cano Thesis as referencing a “commercially available integrated circuit from Analog Devices which perform[s] the same Clocked Rectifier functions described in the ‘169 patent, including the embedded low pass filter or integrator circuit,” (Fultz 4/2/2012 Expert Report at ¶ 139), Plaintiffs’ expert opines that the Analog Devices circuit “does not include an ‘embedded low pass filter or integrator circuit’ as asserted by Dr. Fultz,” so that this circuit “is not a clocked rectifier as taught by the ‘169 patent,” (Dkt. No. 323, Matheson 5/3/2012 Rebuttal Report at ¶ 122). To be sure, Defendants’ expert has prepared a supplemental expert report in which he “completely disagree[s] with Dr. Matheson on whether the [Analog Devices circuit] includes a lowpass filter” and opines that “[a]nyone with a basic electrical engineering degree would recognize” that Dr. Matheson is “completely wrong” on this point. (Defendant TKH’s Motion, Ex. R, Fultz 5/22/2012 Suppl. Expert Report at 12.) Likewise, Defendant TKH asserts in its reply brief that “[n]o reasonable jury could agree” with the position advanced by Plaintiffs and their expert. (Defendant TKH’s Reply Br. at

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<sup>20</sup>The Court notes that while Defendant TKH tersely suggests in a footnote that Dr. Matheson lacks “the proper technical background or relevant experience to qualify as an expert in this case,” (Defendant TKH’s Motion, Br. in Support at 13 n.7), and while TKH consistently refers to Dr. Matheson as an “expert” (with quotation marks) throughout its summary judgment briefing, neither Plaintiffs nor Defendants have moved to exclude the testimony of the opposing side’s expert. Thus, the Court pays no heed to TKH’s passive-aggressive “challenge” to Dr. Matheson’s expertise.

8.) Yet, Defendants fail to suggest a basis upon which the Court could determine as a matter of law that Defendants' expert is right and Plaintiffs' expert is wrong on this factual question as to the scope and content of the prior art. *See Beckson Marine, Inc. v. NFM, Inc.*, 292 F.3d 718, 725 (Fed. Cir. 2002) (citing the "scope and content of the prior art" as one of the "factual inquiries" that must be resolved in order to reach a legal conclusion on obviousness).<sup>21</sup>

Similarly, Plaintiffs and their expert have raised issues of fact as to whether the Smith Thesis can supply the clocked rectifier that is lacking from TKH's '007 Application. Specifically, Plaintiffs' expert reads the Smith Thesis as "teach[ing] away" from the use of a clocked rectifier, as this reference presents alternative "techniques and circuitry as superior to" the use of "a clocked rectifier as taught by the '169 Patent." (Matheson 5/3/2012 Rebuttal Report at ¶¶ 123-24.)<sup>22</sup> Again, Defendants and their expert

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<sup>21</sup>Likewise, the Court declines TKH's invitation to determine as a matter of law that a figure in the Cano Thesis discloses a second purported clocked rectifier that is separate from the Analog Devices circuit and "shows all elements of the clocked rectifier" in the asserted claims of the '169 Patent. (Defendant TKH's Reply Br. at 8.) First, the text immediately following this figure in the Cano Thesis refers to the very same Analog Devices component addressed by the parties' experts as an example of an "integrated circuit[]" that develop[s] the function depicted in the figure. (Defendant TKH's Motion, Ex. I, Ex. 48 to Fultz Expert Report, Cano Thesis at 192.) Thus, it is not evident that the figure in question depicts an entirely separate example of a clocked rectifier. In any event, the Court is at a loss to see how it can rule as a matter of law as to what a diagram in a highly technical doctoral dissertation discloses. With all due modesty, the Court chooses to confine its rulings to matters of law rather than electrical engineering.

<sup>22</sup>As the Federal Circuit explained in *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994), a "reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference or would be led in a direction divergent from the path that was taken by the applicant."

take issue with this reading of the prior art, asserting that “[r]egardless of what Smith actually used in his system, the Smith reference teaches a clocked rectifier as claimed in the ‘169 patent,” and opining that Smith’s “use of one method over another” does not equate to “teach[ing] away from the use of a clocked rectifier.” (Fultz 5/22/2012 Supp. Expert Report at 14-15.) As the Federal Circuit has observed, however, “[w]hether the prior art teaches away from the claimed invention is a question of fact,” *Spectralytics, Inc. v. Cordis Corp.*, 649 F.3d 1336, 1343 (Fed. Cir. 2011), and Defendants have failed to identify a basis in the record for taking this question away from the trier of fact and resolving it as a matter of law.

More generally, Plaintiffs have raised additional issues of fact as to two other issues bearing on Defendants’ claim of obviousness. First, Plaintiffs point out that “[a] reference qualifies as prior art for an obviousness determination under § 103 only when it is analogous to the claimed invention.” *In re Klein*, 647 F.3d 1343, 1348 (Fed. Cir. 2011). A reference is sufficiently analogous if it is “from the same field of endeavor, regardless of the problem addressed,” or if it is “reasonably pertinent to the particular problem with which the inventor is involved.” *Klein*, 647 F.3d at 1348 (internal quotation marks and citation omitted). As observed by Plaintiffs, the ‘169 Patent is in the field of “capacitive occupant detection system[s] . . . for detecting the absence or presence of an occupant seated on a vehicle seat,” (Plaintiffs’ Motion, Ex. A, ‘169 Patent, Col. 1 at 6-9), while the Cano Thesis addresses “Living Tissue Ischemia Injury Monitoring,” (Defendant TKH’s Motion, Ex. I, Ex. 48 to Fultz Expert Report, Cano Thesis at 1). Thus, Plaintiffs’

expert has opined that “Cano is not directed to the same field as the ‘169 invention or to the same problems that the ‘169 inventors were trying to solve.” (Defendant TKAG’s Motion, Ex. C, Matheson 5/10/2013 Rebuttal Report at ¶ 46.) In response, Defendants offer only the assertion of their counsel, without citation to the record, that “Cano is directly pertinent to the demodulation of complex current signals,” the “exact problem” addressed in the ‘169 Patent. (Defendant TKAG’s Reply Br. at 10.) Because this is an issue of fact, *see Klein*, 647 F.3d at 1347, the Court finds that it must be left for the trier of fact to resolve.

Next, Plaintiffs observe that Defendants’ claim of obviousness implicates still another factual inquiry — namely, whether a person having ordinary skill in the art would have “a reason to combine prior art references” in order to “arrive at the claimed invention.” *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1366-67 (Fed. Cir. 2012). In arguing that the requisite reason to combine is lacking, Plaintiffs cite to the opinion of their expert that, on various grounds, there would have been no reason to combine the ‘007 Application with the teachings of either the Cano Thesis or the Smith Thesis. (*See* Matheson 5/3/2012 Rebuttal Report at ¶¶ 119-21, 135-36, 140-41, 145-46.) Defendants then respond as follows, without any citation whatsoever to the opinion of their expert or anything else in the record:

The reason to combine the teachings of either Smith or Cano with TKH’s ‘007 Application cannot be genuinely disputed. Smith addresses the exact same problem as the ‘007 Application — capacitive occupant detection in automobiles. Cano demonstrates the “off-the-shelf” technology that was available for demodulating complex electrical signals.

Additionally, the demodulation of these signals is a problem addressed in Cano, Smith, and the '007 Application.

(Defendant TKH's Reply Br. at 8.) Needless to say, the *ipse dixit* of defense counsel is not sufficient to resolve this issue of fact in Defendants' favor as a matter of law.

Finally, Defendants challenge one of the asserted claims of the '169 Patent, claim 10, as anticipated by the '007 Application alone, without any need to combine this and any other prior art references.<sup>23</sup> Claim 10, unlike the other asserted claims of the '169 Patent, lacks a clocked rectifier, so there is no need to look to other prior art references to supply this element of the claim. The parties' dispute on this issue rests principally on the question whether the '007 Application discloses the fifth and final limitation of claim 10, which describes the determination of the occupancy state of a vehicle seat by reference to a comparison with a threshold:

wherein said processor determines said occupancy state based upon a comparison of said second signal indicative of said second current component with a threshold, said threshold being dependent upon said first signal indicative of said first current component.

('169 Patent, Col. 14 at 42-46.) In Defendants' view, since Plaintiffs and their expert rely on a figure from the '007 Application — a figure that also appears in the earlier-filed provisional application to which Defendants claim priority — to support their claim that Defendant TKAG's accused products meet this fifth limitation of claim 10, (*see*

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<sup>23</sup>As noted earlier, Defendant TKH failed to put forward any evidence in its briefing that would support its claim of priority with respect to the '007 Application. Thus, the Court addresses the present claim of anticipation only as advanced by Defendant TKAG, and not TKH.



Defendant TKAG's Motion, Ex. U, Matheson 2/21/2013 Expert Report, Ex. A, Infringement Chart at 27), it follows that this same figure must show that the '007 Application anticipates claim 10. *See Classen Immunotherapies, Inc. v. Biogen IDEC*, 659 F.3d 1057, 1069 (Fed. Cir. 2011) ("[T]hat which infringes if later anticipates if earlier." (internal quotation marks and citations omitted)).

The record on this point, however, is not as straightforward as Defendants portray it. First and foremost, Defendants themselves dispute that the figure in question from the '007 Application "is sufficient to prove infringement of claim 10." (Defendant TKAG's Motion, Br. in Support at 25 n.19; *see also id.* at 34 (again asserting that this figure cannot support a finding of infringement by TKAG because it is "insufficient to prove the method used by the processor to determine the occupancy state").) Under the same logic advanced by Defendants, if the figure, by itself, is insufficient to show that TKAG's accused devices practice the fifth limitation of claim 10, then it necessarily is insufficient to show that the '007 Application discloses this fifth limitation (and thus anticipates claim 10) solely by virtue of the inclusion of this figure in the application. After all, TKAG itself insists that the figure is "insufficient to prove the method used by the processor to determine the occupancy state," (*id.* at 34), and it surely follows that the figure itself cannot supply the requisite proof that the '007 Application discloses the fifth limitation of claim 10. Although Defendants accuse Plaintiffs of trying to "have it both ways," (*id.* at 25 n.19), by appealing to this figure as establishing infringement of claim 10 of the '169 Patent, while at the same time denying that this figure demonstrates anticipation of claim

10 by the application in which the figure appears, it could equally well be said that Defendants are pursuing inconsistent positions and likewise trying to “have it both ways.”

The governing burdens of proof suffice, for present purposes, to resolve these inconsistencies in the parties’ positions regarding invalidity and infringement. As explained earlier, Defendants bear the burden of proving by clear and convincing evidence that claim 10 of the ‘169 Patent is invalid as anticipated by the ‘007 Application. *See American Seating Co.*, 514 F.3d at 1267. This burden surely must be more difficult to satisfy when ***Defendants themselves*** maintain that the basis for their invalidity challenge, the figure from the ‘007 Application, does not establish that a device operating in accordance with this figure infringes claim 10.<sup>24</sup> Although Defendants contend that the Court may resolve this matter at the summary judgment stage because it turns on the legal issue of claim construction, the parties’ dispute on this point also implicates the scope and content of the ‘007 Application as a prior art reference. As observed earlier, this is a question of fact, *see Beckson Marine*, 292 F.3d at 725, and Defendants suggest no reason why the Court should discount their own statements as to the scope of a prior art reference that they themselves developed.

Moreover, Plaintiffs point out that TKH’s ‘007 Application was cited to the U.S. Patent and Trademark Office (“PTO”) during the prosecution of the ‘169 Patent, and the

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<sup>24</sup>This is particularly so where, as Plaintiffs point out, the burden for proving infringement is the less stringent preponderance of the evidence standard. *See Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1378 (Fed. Cir. 2011).

PTO nonetheless allowed claim 10 over the '007 Application. As Plaintiffs observe, when the PTO determines whether a patent should issue over the prior art, it applies a preponderance standard, *see* 37 C.F.R. § 1.56(b), as opposed to the clear and convincing burden borne by Defendants here. To be sure, Defendants note that this Court is not constrained to decide their invalidity challenge in the same way that the PTO did, particularly given "all of the evidence available to the Court" that the PTO lacked the opportunity to consider. (Defendant TKAG's Reply Br. at 15.) Yet, as their sole example of additional evidence available to the Court, Defendants point to claim charts and testimony in which Plaintiffs' expert relies on the figure from the '007 Application to opine that TKAG's accused devices infringe claim 10 of the '169 Patent. (*See id.* at 16.) Again, this additional evidence surely is offset by Defendants' own statements in their briefing to the Court that this figure does *not* prove infringement of claim 10 because it is "insufficient to prove the method used by the processor [in TKAG's accused devices] to determine the occupancy state." (Defendant TKAG's Motion, Br. in Support at 34.) As between Defendant TKAG's assertions regarding its own devices and the testimony of Plaintiffs' expert about these devices, Defendants presumably would not argue that the Court should favor the latter over the former as a matter of law.<sup>25</sup> Accordingly, the PTO's allowance of claim 10 over prior art that included the '007 Application lends further

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<sup>25</sup>Indeed, in the deposition testimony excerpt cited by Defendants, Plaintiffs' expert expressly relies on a statement from one of TKAG's employees, Dr. Juergen Bender, in arriving at his opinion that TKAG's accused devices operate in accordance with the figure from the '007 Application. (*See* Defendant TKAG's Reply, Ex. B, Matheson 6/26/2013 Dep. at 149.)

support to the Court's conclusion that Defendants have not shown as a matter of law that the '007 Application anticipates this claim of the '169 Patent.

**4. Defendants Have Failed to Demonstrate as a Matter of Law That the '169 Patent Should Be Invalidated for Failure to Join an Inventor.**

As their final challenge to the validity of the '169 Patent, Defendants appeal to the statutory mandate that "[w]hen an invention is made by two or more persons jointly, they shall apply for patent jointly." 35 U.S.C. § 116(a). Defendants contend that this statutory dictate was violated when a purported inventor, Dr. Stefan Getzlaff, was omitted from the list of inventors disclosed in the '169 Patent, despite his allegedly significant contribution to at least some of the claims of this patent. The Court, however, finds that outstanding issues of fact prevent a determination as a matter of law that the contribution identified by Defendants was sufficiently inventive to warrant the inclusion of Dr. Getzlaff among the named inventors of the '169 Patent.

As noted earlier, the Federal Circuit has held that "[a] patent is invalid if more or fewer than the true inventors are named." *Gemstar-TV Guide International*, 383 F.3d at 1381. To merit inclusion among the named inventors of a patent, a joint inventor "must generally contribute to the conception of the invention." *Ethicon, Inc. v. United States Surgical Corp.*, 135 F.3d 1456, 1460 (Fed. Cir. 1998). The Federal Circuit has further explained:

The conceived invention must include every feature of the subject matter claimed in the patent. Nevertheless, for the conception of a joint invention, each of the joint inventors need not make the same type or amount of contribution to the invention. Rather, each needs to perform only

a part of the task which produces the invention. On the other hand, one does not qualify as a joint inventor by merely assisting the actual inventor after conception of the claimed invention. One who simply provides the inventor with well-known principles or explains the state of the art without ever having a firm and definite idea of the claimed combination as a whole does not qualify as a joint inventor. Moreover, depending on the scope of a patent's claims, one of ordinary skill in the art who simply reduced the inventor's idea to practice is not necessarily a joint inventor, even if the specification discloses that embodiment to satisfy the best mode requirement.

Furthermore, a co-inventor need not make a contribution to every claim of a patent. A contribution to one claim is enough. Thus, the critical question for joint conception is who conceived, as that term is used in the patent law, the subject matter of the claims at issue.

*Ethicon*, 135 F.3d at 1460 (internal quotation marks and citations omitted). Once again, because “[p]atent issuance creates a presumption that the named inventors are the true and only inventors,” *Ethicon*, 135 F.3d at 1460, “a party alleging non-joinder [of an inventor] must meet the heavy burden of proving its case by clear and convincing evidence,” *Nartron Corp.*, 558 F.3d at 1356 (internal quotation marks and citation omitted).

Defendants’ claim of non-joinder rests on the proposition that Dr. Getzlaff invented the clocked rectifier that features in several of the asserted claims of the ‘169 Patent. Dr. Getzlaff is employed by ZMD, a German corporation that supplied one component, an application specific integrated circuit (“ASIC”), used in Plaintiffs’ “BodySense” occupant detection product. As support for their contention that Dr. Getzlaff “designed and disclosed” a clocked rectifier to Plaintiffs before the November 29, 2006 invention date of the ‘169 Patent, (Defendant TKAG’s Motion, Br. in Support at 7), Defendants first point to a May 9, 2006 specification document authored by Dr.

Getzlaff that describes version 4.0 of the BodySense ASIC developed by ZMD. (*See* Plaintiffs’ Response to Defendant TKAG’s Motion, Ex. C, BodySense ASIC Specification Version 4.0.) This specification refers to one component of the BodySense ASIC as a “frequency selective current meter,” (*id.* at 18-19), which Defendants claim — albeit without citation to any supporting evidence — is “ZMD’s phrase for the clocked rectifier,” (Defendant TKAG’s Motion, Br. in Support at 7). Defendants further cite a passage from the deposition testimony of Christoph Wendt, an IEE hardware engineer and one of the named inventors of the ‘169 Patent, where he was asked about the clocked rectifier in the ASIC supplied by ZMD:

Q: Okay. Do you know who did develop it?  
A: Yes, I do.  
Q: And who’s that?  
A: It was the company ZMD.  
Q: Okay. Was there a specific person at ZMD that —  
A: Yes, there was.  
Q: Who was that.  
A: His name was Mr. Getzlaff.  
Q: Okay. So Mr. Getzlaff designed the switch; is that correct?  
A: I don’t know that.  
Q: Okay. Did Mr. Getzlaff design the layout of the clocked rectifier?  
A: I don’t know that.  
Q: Did you come up with the design of the clocked rectifier?  
A: No, I didn’t.  
Q: Okay. Do you know if any of the people that you worked with at IEE developed the layout of the clocked rectifier?  
A: Nobody at IEE developed a — a design for the BodySense.  
Q: For the clocked rectifier of the BodySense?  
A: Nobody at IEE has developed a clocked rectifier which is used for BodySense.  
Q: Okay. So someone at ZMD developed the layout for the clocked rectifier that’s used in BodySense?  
A: Well, I do think so. Yes.

(Defendant TKAG's Motion, Ex. J, Wendt Dep. at 113-15.) Finally, Defendants point to an e-mail sent by ZMD's in-house counsel to one of Defendants' attorneys, stating that the frequency selective current meter referenced in the specification for version 4.0 of the BodySense ASIC "was developed by ZMD[]" under the company's agreement with IEE. (Defendant TKAG's Motion, Ex. M, Ex. 2 to Schmid Decl., 1/31/2013 E-mail.)<sup>26</sup>

In response, Plaintiffs first accuse Defendants of failing to direct their argument toward the actual language of the '169 Patent, which does not merely disclose a clocked rectifier simpliciter, but instead requires a clocked rectifier with a variety of features:

a clocked rectifier, said clocked rectifier being operatively coupled to said oscillator and to said current-to-voltage converter, wherein said clocked rectifier provides

a first intermediate voltage signal comprising, during said first time intervals, one of a non-inverse copy and an inverse copy of said converter voltage signal and, during said second time intervals, the other of said non-inverse copy and said inverse copy, and

a second intermediate voltage signal comprising, during said third time intervals, one of a non-inverse copy and an inverse copy of said converter voltage signal and during said fourth time intervals the other of said non-inverse copy and said inverse copy,

and wherein said clocked rectifier generates said first signal indicative of said first current component as a time average or time integral of said first intermediate voltage signal and said second signal indicative of said second current component as a time average or time integral of said second intermediate voltage signal.

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<sup>26</sup>As Plaintiffs correctly observe in their response to Defendant TKAG's motion, this e-mail disclosing the results of a ZMD investigation into the development history of the BodySense ASIC is hearsay, and therefore must be disregarded in resolving TKAG's summary judgment motion. *See U.S. Structures, Inc. v. J.P. Structures, Inc.*, 130 F.3d 1185, 1189 (6th Cir. 1997).

(‘169 Patent, Claim 1, Col. 12:62-Col. 13:13.) In Plaintiffs’ view, then, Defendants’ evidence of Dr. Getzlaff’s development of a clocked rectifier for the BodySense ASIC is unavailing, as it falls well short of demonstrating that Dr. Getzlaff conceived of the clocked rectifier as this element is defined in the asserted claims of the ‘169 Patent. As Plaintiffs cogently observe, the ‘169 Patent “does not claim a generic clocked rectifier.” (Plaintiff’s Br. in Response to Defendant TKAG’s Motion at 10; *see also* Defendant TKH’s Motion, Br. in Support at 8 (acknowledging that the asserted claims of the ‘169 Patent “define the clocked rectifier by the signals it generates”).)

Similarly, Plaintiffs contend that Defendants have moved too quickly, and without legal or record support, from evidence that Dr. Getzlaff *developed* the clocked rectifier for the BodySense ASIC to the conclusion that he thereby *conceived* of the specific clocked rectifier actually disclosed in the ‘169 Patent. In particular, Plaintiffs point to the declaration of Mr. Wendt, one of the named inventors, in which he describes more fully the process through which the clocked rectifier claimed in the ‘169 Patent came into being. (*See* Plaintiffs’ Response to Defendant TKAG’s Motion, Ex. A, Wendt. 7/19/2013 Decl.) According to his declaration, Mr. Wendt authored a BodySense ASIC specification in May of 2004 — two years prior to the specification document authored by Dr. Getzlaff — that evidenced his knowledge at the time of a “clocked rectifier/synchronous rectifier.” (*Id.* at ¶ 9.)<sup>27</sup> Mr. Wendt further states that ZMD used

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<sup>27</sup>Mr. Wendt explains elsewhere in his declaration that he “use[s] the terms ‘synchronous rectifier’ and ‘clocked rectifier’ interchangeably.” (*Id.* at ¶ 5.) As Defendants observe, this



this document, including its references to a “synchronous rectifier,” to “implement the[] hardware and functional requirements [identified by Wendt] in an ASIC.” (Wendt Decl. at ¶ 10.) Yet, while the “clocked rectifier/synchronous rectifier in ZMD’s ASIC was designed to measure only one component of current at a time,” Plaintiffs’ BodySense development team determined in late 2006 that it was necessary to “measur[e] both current components,” in order to address the so-called “wet seat problem” that was “solved” through the invention described in the ‘169 Patent. (*Id.* at ¶¶ 11-14.)<sup>28</sup> To implement this solution through “a physical embodiment of our invention,” the BodySense development team “reconfigured the clocked rectifier on the ZMD ASIC” by writing software that enabled it to “measure [both] the real part and the imaginary part of the current on the sensor[.]” (*Id.* at ¶¶ 17-18.)<sup>29</sup>

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assertion is somewhat in tension with Mr. Wendt’s prior deposition testimony that a clocked rectifier and a synchronous rectifier are “not necessarily” the same thing. (Defendant TKAG’s Reply, Ex. A, Wendt Dep. at 108.)

<sup>28</sup>As noted earlier, the “wet seat problem” arises when water on the surface of a vehicle seat introduces inaccuracy in the measurement of capacitance, and thereby results in the potential misclassification of the seat occupant. (*See id.* at ¶ 12.)

<sup>29</sup>Defendants submit that Mr. Wendt’s declaration should be disregarded as purportedly “new” evidence that Plaintiffs are prohibited from offering under a June 5, 2013 discovery order issued by the Magistrate Judge. Specifically, the Magistrate Judge ruled that Plaintiffs were “limited in future proceedings in this case, whether it be the prosecution of [their] claims or the defense of any claims made by defendants, to the use of only those documents they have already disclosed during the pendency of this litigation and to those positions they have already stated in their supplemental responses following the entry of” a prior discovery order. (6/5/2013 Bench Order.) Yet, Defendants have failed to identify any documents relied upon by Plaintiffs in their opposition to Defendant TKAG’s motion, apart from Mr. Wendt’s declaration itself, that would qualify as “new” under the Magistrate Judge’s order — *i.e.*, documents that were not previously disclosed by Plaintiffs “during the pendency of this litigation.” Although Mr. Wendt’s declaration is accompanied by a number of exhibits, Defendants do not claim that these materials

In Plaintiffs' view, Mr. Wendt's declaration demonstrates that the clocked rectifier supplied in the ZMD ASIC lacked certain key features of the clocked rectifier disclosed in the '169 Patent, such that Dr. Getzlaff cannot be said to have conceived of or invented any subject matter claimed in the patent. The resolution of this question entails "a comparison of the alleged contributions of [Dr. Getzlaff] with the subject matter of the correctly construed claim." *Gemstar-TV Guide International*, 383 F.3d at 1382. More generally, the Federal Circuit has emphasized that "[d]etermining 'inventorship' is

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were withheld during discovery. Moreover, while the declaration itself presumably is "new," Fed. R. Civ. P. 56(c)(4) expressly authorizes the submission of affidavits or declarations to support or oppose a summary judgment motion, so long as the criteria of that provision are met, and Defendants have failed to suggest how Mr. Wendt's declaration might run afoul of the standards of Rule 56(c)(4).

This leaves only the possibility that Mr. Wendt's declaration might advance a new position in violation of the Magistrate Judge's order. In fact, Defendants make precisely this claim, arguing that Plaintiffs seek through this declaration to "offer a new version of their story of the development of the invention including the clocked rectifier." (Defendant TKAG's Reply Br. at 5 (footnote omitted).) Defendants do not deny, however, that they had a full and fair opportunity to depose Mr. Wendt and the other inventors named in the '169 Patent, and to explore in these depositions the process by which the invention claimed in the patent was conceived and reduced to practice. To be sure, Plaintiffs cannot create an issue of fact by "filing an affidavit, after a motion for summary judgment has been made, that essentially contradicts [Mr. Wendt's] earlier deposition testimony," *Penny v. United Parcel Service*, 128 F.3d 408, 415 (6th Cir. 1997) — and, again, Defendants suggest that this is what Plaintiffs seek to achieve through the submission of Mr. Wendt's declaration. Yet, upon comparing the extremely limited excerpts of Mr. Wendt's deposition testimony provided by Defendants — consisting of a grand total of six pages — against the declaration produced by Plaintiffs, the Court cannot say that the former is contradicted by the latter. Rather, the deposition excerpts are directed at Mr. Wendt's apparently limited knowledge of the development of the clocked rectifier component of the BodySense ASIC supplied by ZMD, while Mr. Wendt's declaration more broadly addresses the process through which the particular clocked rectifier claimed in the '169 Patent was conceived — a process that involved reconfiguring the clocked rectifier provided on ZMD's ASIC. Because the declaration expands upon, rather than contradicts, Mr. Wendt's prior deposition testimony, the Court finds no basis for excluding Mr. Wendt's declaration from consideration in resolving Defendant TKAG's summary judgment motion.

nothing more than determining who conceived the subject matter at issue,” and that “[c]onception exists when a definite and permanent idea of an operative invention, including every feature of the subject matter sought to be patented, is known.” *Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994).

In accordance with these overarching principles, the courts have distinguished between development and invention. In *Sewall*, 21 F.3d at 416, for example, the court found that the plaintiff was not entitled to be named as a co-inventor on a patent, where the record showed that the plaintiff’s “hardware design was dictated explicitly by . . . specifications” provided by the defendant inventor, and where the plaintiff’s “design of circuits to carry out [the defendant’s] idea was simply the exercise of the normal skill expected of an ordinary chip designer, which did not involve any inventive acts.” Similarly, in *Hess v. Advanced Cardiovascular Systems, Inc.*, 106 F.3d 976, 977, 980 (Fed. Cir. 1997), the Federal Circuit held that the plaintiff’s contribution to a balloon angioplasty catheter claimed in the patent-in-suit “did not make him a co-inventor of the patented device,” where the plaintiff “recommended a . . . product that he believed would be suitable for making a balloon” and “made other suggestions for making the catheter, using the [recommended] tubing.” In so ruling, the court affirmed the district court’s findings that the plaintiff was “doing nothing more than explaining to the inventors what the then state of the art was and supplying a product for them to use in their invention,” and that “what [the plaintiff] was doing was showing them available product, telling them its properties, [and] telling them how it could be used.” *Hess*, 106 F.3d at 981. In the

court's view, the plaintiff "did no more than a skilled salesman would do in explaining how his employer's product could be used to meet a customer's requirements," and the court found that this contribution "did not constitute conception." 106 F.3d at 981.

Likewise, Plaintiffs read Mr. Wendt's declaration and the accompanying record in this case as establishing that ZMD and Dr. Getzlaff developed an ASIC, including its clocked rectifier, in accordance with specifications provided by Mr. Wendt, and that the conception of the particular clocked rectifier claimed in the '169 Patent occurred later through the efforts of Mr. Wendt and other members of Plaintiffs' BodySense development team to solve the so-called "wet seat problem."

Finally, Plaintiffs point to Defendants' own statements in their summary judgment briefs as confirming that Dr. Getzlaff's contribution to the BodySense ASIC did not rise to the level of co-inventorship. In particular, both TKH and TKAG have asserted that although TKH's 1.5 Prototype purportedly had a clocked rectifier, the corresponding '007 Application "did not explicitly disclose the clocked rectifier because it was not innovative." (Defendant TKH's Motion, Br. in Support at 11; *see also* Defendant TKAG's Motion, Br. in Support at 21.) Since the '007 Application was roughly contemporaneous with the May 9, 2006 BodySense ASIC specification authored by Dr. Getzlaff, it seemingly follows that Dr. Getzlaff's use of a clocked rectifier likewise was "not innovative." Defendant TKH has further stated that "[t]here is nothing surprising, unpredictable or inventive about use of a clocked rectifier." (Defendant TKH's Motion, Br. in Support at 13.) Presumably, then, Dr. Getzlaff is not eligible for co-inventor status

merely by virtue of his selection of a clocked rectifier as one of the components of the BodySense ASIC developed by ZMD.

Against this evidentiary backdrop, the Court readily concludes that issues of fact preclude a determination as a matter of law that the '169 Patent is invalid for failure to name Dr. Getzlaff as a co-inventor. The evidence produced by Defendants indicates that Dr. Getzlaff, perhaps with the aid of others at ZMD, developed a version of the BodySense ASIC that included a clocked rectifier as one of its components. Yet, the record is quite limited as to the process through which this BodySense ASIC was developed, and Plaintiffs have raised an issue of fact as to whether the implementation of this ASIC, including its use of a clocked rectifier, was guided, or perhaps even dictated, by specifications supplied to ZMD by Mr. Wendt.<sup>30</sup> As discussed, the pertinent case law distinguishes between development and invention, particularly where, as here, there is evidence that a third party's contribution to the development process was based on specifications provided by the inventor. Indeed, even the evidentiary centerpiece of

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<sup>30</sup>The Court recognizes that there is an outstanding dispute between the parties concerning Defendants' efforts to obtain additional information from ZMD regarding its development of the BodySense ASIC and the use of a clocked rectifier in this integrated circuit. In particular, the Magistrate Judge determined in a June 24, 2013 order that Plaintiffs had improperly interfered with Defendants' attempts to obtain documents from ZMD and to interview Dr. Getzlaff, and Plaintiffs were instructed to cease this interference. Plaintiffs, however, have lodged objections to the Magistrate Judge's order, and the Court has not yet ruled on these objections. In the event that Defendants are permitted to seek additional information from ZMD and this information sheds new light on Defendants' claim that Dr. Getzlaff should be deemed a co-inventor of the invention disclosed in the '169 Patent, Defendants may seek leave to file a motion bringing any such new developments to the attention of the Court and requesting appropriate relief.

Defendants' inventorship challenge, the May 9, 2006 BodySense ASIC Specification authored by Dr. Getzlaff, states on its very first page that the parameters for the integrated circuit described in this specification were "based on the requirements given by IEE in [a specified] document . . . issued by Christoph Wendt." (Plaintiffs' Response to Defendant TKAG's Motion, Ex. C, BodySense ASIC Specification Version 4.0 at 1.) Moreover, Plaintiffs have produced evidence that the clocked rectifier supplied as part of ZMD's BodySense ASIC was reconfigured and adapted by Plaintiffs' BodySense development team in order to achieve the solution to the "wet seat problem" that is claimed in the '169 Patent. This raises a further question of fact as to whether Dr. Getzlaff's contribution of a clocked rectifier may properly be viewed as part of the conception of the device disclosed in the '169 Patent. In light of these outstanding factual issues, Defendants have not established as a matter of law — let alone under the governing clear and convincing standard — that the '169 Patent should be declared invalid for failure to join Dr. Getzlaff as a named inventor.

**C. Issues of Fact Remain as to Whether Defendant TKH's Accused Devices Infringe the '169 Patent, But Defendant TKAG Has Established as a Matter of Law That Its Accused Devices Do Not Infringe Claim 6 of the '169 Patent.**

Having addressed Defendants' various challenges to the validity of the '169 Patent, the Court now turns to the parties' arguments as to whether the accused products of Defendants TKH and TKAG infringe the asserted claims of this patent. Specifically, Plaintiffs seek a ruling as a matter of law that Defendant TKH's CS3 product infringes claims 1, 10, 13, and 15 of the '169 Patent. Defendant TKAG, for its part, contends that

the record establishes as a matter of law that its accused products do not infringe claims 1, 6, or 10 of the ‘169 Patent. As discussed below, the Court concludes that the issues raised by the parties are not amenable to resolution as a matter of law, with the exception of one claim of non-infringement advanced by Defendant TKAG.

### **1. The Standards Governing the Parties’ Claims of Infringement**

This Court’s infringement inquiry is governed by a two-step analytical framework. *See Ethicon Endo-Surgery, Inc. v. United States Surgical Corp.*, 149 F.3d 1309, 1315 (Fed. Cir. 1998); *Lear Automotive Dearborn, Inc. v. Johnson Controls, Inc.*, 528 F. Supp.2d 654, 659 (E.D. Mich. 2007). First, the pertinent claims must be construed to determine their meaning and scope. *See Ethicon Endo-Surgery*, 149 F.3d at 1315. Next, the claims as construed must be compared to the accused device. *See Ethicon Endo-Surgery*, 149 F.3d at 1315. The party alleging infringement must demonstrate by a preponderance of the evidence “that every limitation in the claim is literally met by the accused device.” *Kahn v. General Motors Corp.*, 135 F.3d 1472, 1476 (Fed. Cir. 1998). The failure of the accused device to meet even “a single limitation is sufficient to negate infringement of the claim.” *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1535 (Fed. Cir. 1991).

The first step in the infringement analysis, claim construction, is a question of law to be determined by the Court. *See Ethicon Endo-Surgery*, 149 F.3d at 1315; *Lear Automotive*, 528 F. Supp.2d at 660. The second step, however — *i.e.*, “determining whether a particular device infringes a properly construed claim” — is a question of fact.

*Ethicon Endo-Surgery*, 149 F.3d at 1315. Nonetheless, an infringement inquiry is amenable to resolution through a motion for summary judgment if no reasonable trier of fact could find other than for the moving party. *See Ethicon Endo-Surgery*, 149 F.3d at 1315.

**2. Plaintiffs Have Failed to Demonstrate as a Matter of Law that Defendant TKH's CS3 Product Infringes the Asserted Claims of the '169 Patent.**

Near the end of their brief in support of their summary judgment motion, Plaintiffs advance the argument, seemingly almost as an afterthought, that Defendant TKH's CS3 occupant detection product infringes claims 1, 10, 13, and 15 of the '169 Patent. Plaintiff's argument is premised almost entirely on the fact that, as the discovery period for the TKH phase of the case neared its conclusion, TKH had identified only a single limitation of the asserted claims of the '169 Patent that its product allegedly did not meet. Just before the close of discovery, however, TKH raised several more defenses to Plaintiffs' claims of infringement, and the Court denied Plaintiffs' motion to strike these additional defenses. (*See* 9/27/2012 Order.) In light of this evolution in the procedural landscape surrounding Plaintiffs' claims of infringement against Defendant TKH, and in light of Plaintiffs' rather perfunctory attempt to establish a basis for deciding these claims in their favor as a matter of law, the Court readily concludes, as explained below, that issues of fact preclude a determination as a matter of law that Defendant TKH's accused



CS3 product infringes — or does not infringe — the asserted claims of the ‘169 Patent.<sup>31</sup>

The first point of contention between the parties concerning alleged infringement of the ‘169 Patent by TKH’s CS3 product implicates the second and third limitations of claim 1:

an electrode operatively coupled to said oscillator, wherein said oscillator applies an oscillating voltage signal to said electrode, wherein a current is caused to flow in said electrode, said current being responsive to an electric-field-influencing property of an object or occupant proximate to said electrode, ***said current having a first current component in phase with said oscillating voltage signal and a second current component 90-degrees-phase offset with respect to said oscillating voltage signal;*** [and]

a sensing circuit, operatively coupled to said electrode and to said oscillator, said sensing circuit generating ***a first signal indicative of said first current component and a second signal indicative of said second current component***[.]

(‘169 Patent, Col. 12 at 23-37 (emphasis added).) According to Plaintiffs and their expert, TKH’s CS3 product meets these limitations through its measurement of two current components, “I” and “Q,” which in turn are used to generate signals “indicative of” these two current components. (*See* Dkt. No. 266, Matheson 2/29/2012 Decl. at ¶ 28.)

Defendant TKH and its expert, however, maintain that Plaintiffs’ expert has unduly extrapolated from bare references to “I” and “Q” in the documentation for the CS3 product to the unfounded conclusion that these two current components are “in phase

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<sup>31</sup>The Court addresses both the issues of infringement and non-infringement, in light of Defendant TKH’s contention in its response to Plaintiffs’ motion that the Court should not only deny Plaintiffs’ request for summary judgment as to the CS3 device’s infringement of the ‘169 Patent, but should grant summary judgment in TKH’s favor by determining as a matter of law that the CS3 device does not infringe the ‘169 Patent.

with” and “90-degrees-phase offset with respect to” the oscillating voltage signal applied to the sensing electrode. In fact, TKH’s expert asserts that this is not the case:

. . . . The TKH Capacitive Sensing System does not have a first signal indicative of a first current component, which is in phase with an oscillating voltage signal, or a second signal indicative of a second current component, which is 90-degrees-phase offset with respect to the oscillating voltage signal. This is because the current caused to flow in the sensing electrode of the TKH Capacitive Sensing System undergoes a “phase shift.” The phase shift is a result of the following two effects: (1) drift due to temperature change or hardware imperfections; and (2) object interference with the electric field generated by the sensing electrode. The TKH system is designed to eliminate the phase shift that results from temperature change or hardware imperfections using, in part, reference capacitors. However, a “phase shift” always remains with respect to the driving oscillating voltage signal.

(Defendant TKH’s Response to Plaintiffs’ Motion, Ex. Q, Fultz 5/2/2012 Rebuttal Expert Report at ¶ 93.) Dr. Fultz further explains that due to this phase shift, the “I” and “Q” current components referenced in the documentation for the CS3 product do not meet the limitations for the first and second current components as set forth in the ‘169 Patent:

Reference capacitors are used to modify the current flowing in the sensing electrode. This modified current includes two different current components. These two different current components are referred to in TKH documents as the in phase component (“I”) and the out of phase component (“Q”). However, due to modification of the current, the TKH I and Q current components are not the same as the first and second current components recited in the claims of the ‘169 patent. Therefore, I conclude that the TKH system does not include a “current having a first current component in phase with said oscillating voltage signal and a second current component 90-degrees-phase-offset with respect to said oscillating voltage signal,” as required by claims 1, 10, 13 and 15 of the ‘169 patent.

(*Id.* at ¶ 94.)

This “battle of the experts” with respect to the two current components referenced

in the '169 Patent and the "T" and "Q" current components used in TKH's CS3 device cannot be resolved by the Court as a matter of law, but must be left for the trier of fact to decide. To be sure, Plaintiffs' expert opines in a supplemental declaration that TKH's assertions regarding the purported effects of a "phase shift" in the current flowing through the CS3 sensing electrode reflect "a fundamental misunderstanding of the nature of AC circuitry," and he explains that "[i]t is intrinsic to the nature of current and voltage in oscillating circuits that the real and imaginary components of the current are precisely in-phase and 90-degrees-phase-offset from the voltage." (Plaintiffs' Reply, Ex. E, Matheson 4/12/2012 Third Decl. at ¶ 5.) As observed earlier, however, under the present summary judgment posture of this case, the Court cannot say as a matter of law which of the parties' experts has offered the more correct statement of electrical engineering principles, or which of these experts has more accurately and reliably applied these principles to the underlying facts concerning the operation of TKH's CS3 device. Rather, these matters must await determination by the trier of fact.

Next, the parties dispute whether TKH's CS3 product meets the limitation of independent claims 1 and 13 that the oscillator applies a "sinusoidal" voltage signal that is "positive during first time intervals" and "negative during second time intervals." ('169 Patent, Col. 12 at 43-47.) TKH's expert states without dispute that "[t]he THOR ASIC used in the TKH system includes a voltage generator that produces a sine wave type voltage signal that oscillates between 3.0 and 3.6 volts," so that "[t]he sine wave oscillates about 3.3 volts and never has a negative voltage value." (Fultz 5/2/2012

Rebuttal Expert Report at ¶ 97.) Because the oscillating voltage signal in the CS3 product is never negative, Defendant TKH surmises that this product cannot infringe claims 1 or 13 of the '169 Patent, nor any asserted claims that depend from these two claims.

Once again, however, the two sides and their experts disagree on the pertinent principles of electrical engineering and how these principles should apply in characterizing the operation of TKH's CS3 device. According to Plaintiffs' expert, the sensor electrode voltage in the CS3 device "consists of an AC signal plus a DC offset signal," and the "AC signal has positive and negative values that are measured separately from the DC offset" and "do not change in the presence of a DC offset signal." (Matheson 4/12/2012 Third Decl. at ¶ 7.) Indeed, the deposition testimony of Defendants' own expert lends some support to this notion that the oscillating voltage signal in the CS3 device can be characterized as an AC signal oscillating between positive and negative values plus a DC offset signal:

Q: Do you believe that an oscillating voltage that oscillates between 3.0 and 3.6 volts can — can be split into a — a DC voltage at 3.3 volts and an AC voltage that oscillates between minus .3 and plus point three?

\* \* \* \*

A: That is the definition of a sinusoid that oscillates between zero and "A," is it's riding on a DC offset of "A" over two.

Q: So a sinusoid that oscillates between 3.0 and 3.6 volts is an AC voltage signal oscillating between minus .3 and plus .3 volts riding on a DC voltage signal of 3.3 volts, is that correct?

A: I didn't quite follow all the math, but I'm going to assume if you — the DC is half, if one half the min, the max minus min of that sine wave, then I would agree with that.

(Plaintiffs' Reply, Ex. D, Fultz 5/3/2012 Dep. at 215.) More generally, Plaintiffs point to the acknowledgment of Defendants' expert that "[t]he definition of voltage is relative," that there is "no absolute" value of the midpoint of a sinusoidal AC signal, and that a reference to a positive or negative voltage is "meaningless without a reference point." (Plaintiffs' Response to Defendant TKAG's Motion, Ex. K, Fultz 6/11/2013 Dep. at 51-54.) Based on this expert testimony, Plaintiffs contend that the CS3 device "has the positive/negative oscillating signal of the '169 patent," with the DC offset signal properly viewed as "an additional element" that "cannot avoid infringement." (Plaintiffs' Reply Br. at 13 (citation omitted).)

Notwithstanding this record, Defendants suggest two means by which this question may be resolved in their favor as a matter of law. First, they observe that the pertinent claims of the '169 Patent unequivocally call for a "negative" voltage signal. Unless this limitation is construed as Plaintiffs and their expert propose — *i.e.*, as met by a voltage signal consisting of an AC signal with positive and negative values, with or without a DC offset signal — the CS3 device does not meet this limitation. Because the proper construction of this claim limitation is a matter of law for the Court to decide, *see Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372, 116 S. Ct. 1384, 1387 (1996), Defendants argue that the Court should adopt their preferred interpretation of the '169 Patent's "negative" voltage limitation, and should conclude that their CS3 product does

not literally meet this limitation.<sup>32</sup>

The Court, however, finds that the parties' summary judgment briefing and accompanying record do not provide a suitable backdrop for resolving this matter of claim construction at the present juncture. First, it is noteworthy that neither side requested a *Markman* hearing at which the Court would resolve disputed claim language. Rather, Defendants' invitation for the Court to construe the "negative" voltage limitation of the '169 Patent consists entirely of the *ad hoc* arguments of their counsel raised for the first time in Defendant TKAG's reply brief, and supported by (i) limited citations to a single figure and a small handful of select phrases in the specification, and (ii) appeals, without supporting authority, to concepts that are purportedly "known in the art" and equations that would be "understood in mathematics" in a certain way. (Defendant TKAG's Reply Br. at 17-18.) Against this sparse evidentiary backdrop, the Court simply is not equipped to say how the "negative" voltage limitation of the '169 Patent would be understood by "a person of ordinary skill in the art in question at the time of the invention." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005). As the Federal Circuit observed as part of an extensive discussion of the principles governing a court's claim construction inquiry:

In many cases that give rise to litigation, . . . determining the ordinary and customary meaning of the claim requires examination of terms that have a

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<sup>32</sup>As Defendants observe, Plaintiffs have not advanced any contention in their summary judgment briefing that the CS3 device infringes the '169 Patent under the doctrine of equivalents.

particular meaning in a field of art. Because the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent, and because patentees frequently use terms idiosyncratically, the court looks to those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean. Those sources include the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.

*Phillips*, 415 F.3d at 1314 (internal quotation marks and citations omitted). The record here is nearly bereft of these sorts of evidence, and the evidence that there is does not point decisively in favor of one side's position — as amply demonstrated by the above-cited expert testimony that suggests some degree of ambiguity in what it means for a voltage signal to be “negative.” Accordingly, the Court declines Defendants' cursory and makeshift invitation to declare the meaning of this term as a matter of law under an incomplete and inadequate record.

Moreover, even if the Court were in a position to resolve this issue of claim construction at the present juncture, issues of fact would remain as to whether Defendants' accused devices are properly characterized as lacking the “negative” voltage signal called for in the '169 Patent. In arguing that the Court should decide this question in their favor as a matter of law, Defendants point to the testimony of a TKAG engineer, Dr. Juergen Bender, that TKAG's accused products always operate with “a positive voltage.” (Defendant TKAG's Motion, Ex. V, Binder Dep. at 56.) While Dr. Bender further testified that it is possible to convert a sinusoidal plus/minus voltage into a strictly positive voltage by applying an “offset” to the “median” or “zero point,” he denied that

TKAG's products apply such an offset, and instead opined that these devices employ a "sinusoidal voltage . . . between zero and five volt[s]." (*Id.* at 56.) In Defendants' view, this testimony defeats any attempt to establish that their accused devices include an oscillating voltage signal that is negative at any time, even if this negative signal limitation may be met, as Plaintiffs' expert proposes, through a combination of an AC voltage that oscillates between positive and negative and a DC offset.

Again, however, this argument unduly disregards expert testimony that would support a contrary conclusion. As discussed above, Plaintiffs' and Defendants' experts arguably seem to agree that, by definition, a strictly positive sinusoidal voltage signal can be represented as an oscillating positive/negative AC voltage signal with a DC offset. Although Dr. Bender seemed to resist this characterization of TKAG's accused products in his deposition testimony, Defendants plainly cannot overcome an issue of fact that arises from the testimony of their own expert on this point. Moreover, even if the testimony of Dr. Bender and Defendants' expert may be reconciled, Plaintiffs have offered the testimony of their expert that Defendants' accused devices meet the negative voltage limitation of the '169 Patent. Consequently, this issue of fact as to the operation of the accused devices must be resolved by the trier of fact.

The next point of divergence between the parties arises from the language of claims 1 and 13 of the '169 Patent requiring a "clocked rectifier" that provides a "first intermediate voltage signal" and a "second intermediate voltage signal." ('169 Patent, Col. 12:65-Col. 13:3.) Citing signal patterns depicted in Figure 6 of the '169 Patent, as



well as the testimony of their expert, Defendants contend that Plaintiffs have failed to produce any evidence demonstrating (i) that TKH's CS3 device produces voltage signals with the same "wave form[s]" depicted in Figure 6, or (ii) that the CS3 device produces the "intermediate voltage signal[s]" called for in claims 1 and 13. (Defendant TKH's Br. in Response to Plaintiffs' Motion at 33 (citing TKH's Response to Plaintiffs' Motion, Ex. Q, Fultz 5/2/2012 Rebuttal Expert Report at ¶ 99)<sup>33</sup>.)

As Plaintiffs correctly observe in response, however, Defendants' appeal to Figure 6 of the '169 Patent is unavailing to prove non-infringement, because the specific "wave forms" depicted in this figure do not impose additional limitations on the "intermediate voltage signal[s]" referenced in claims 1 and 13, beyond the limitations set forth in the language of the claims themselves. *See Gart v. Logitech, Inc.*, 254 F.3d 1334, 1342 (Fed. Cir. 2001) (explaining that the drawings included in the patent-in-suit should be viewed only as "depict[ing] the preferred embodiment," and were "not meant to represent 'the' invention or to limit the scope of coverage defined by the words used in the claims themselves"); *see also Phillips*, 415 F.3d at 1323 (emphasizing that courts should "avoid importing limitations from the specification into the claims"). As for the question whether TKH's CS3 product meets the "first intermediate voltage signal" and "second

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<sup>33</sup>To be accurate, in advancing this argument, Defendant TKH cites a different paragraph (¶ 106) of a different expert report produced by Dr. Fultz. (*See* Defendant TKH's Br. in Response to Plaintiffs' Motion at 33.) Thus left to its own devices, the Court was able to identify the relevant portion of the appropriate expert report that supports TKH's position on this point. Regrettably, such inaccurate citations to the record — and particularly to Dr. Fultz's expert reports — feature repeatedly in TKH's response to Plaintiffs' motion.

intermediate voltage signal” limitations of claims 1 and 13, Plaintiffs’ expert has opined that “[o]ne of skill” would identify the requisite signals in a figure found in the specification for the “THOR ASIC” used in Defendants’ accused devices. (*See* Matheson 4/12/2012 Third Decl. at ¶ 9; *see also* Dkt. No. 339, Matheson 4/3/2012 Expert Report, Ex. B, Claim Chart at 11-12.) This is still another “battle of the experts” that the trier of fact must resolve.

Finally, Defendants contend that Plaintiffs have effectively conceded that TKH’s CS3 device does not infringe the claims of the ‘169 Patent that require a “clocked rectifier,” where (i) Plaintiffs stated in a discovery response that a certain prior art reference — U.S. Patent Publication No. 2005/0253712, referred to by the parties as the “Kimura” reference — did not disclose a clocked rectifier, and (ii) the documentation for the CS3 device purportedly discloses “demodulators using the same type of square wave multiplication” that is used in the Kimura reference. (Defendant TKH’s Br. in Response to Plaintiffs’ Motion at 34.) As Plaintiffs correctly observe, however, the portion of the record cited by Defendants for the second of these propositions — a paragraph from one of Dr. Fultz’s expert reports — “does not even address whether Kimura and the TKH product are the same.” (Plaintiffs’ Reply Br. at 14.) In any event, Plaintiffs’ expert disputes this proposition, (*see* Matheson 4/12/2012 Third Decl. at ¶ 10), so the issue is, at best, one that the trier of fact will have to resolve.

**3. Defendant TKAG Has Demonstrated as a Matter of Law That Its Accused Products Do Not Infringe Claim 6 of the ‘169 Patent, But Issues of Fact Remain as to Whether These Products Infringe the**

### **Other Asserted Claims of the ‘169 Patent.**

The last remaining issues to be addressed by the Court with respect to the ‘169 Patent are raised in the summary judgment motion brought by Defendant TKAG. Specifically, TKAG asserts that the record establishes as a matter of law that its accused devices do not infringe claims 1, 6, or 10 of the ‘169 Patent. As discussed below, while the Court agrees with Defendant TKAG as to its non-infringement of claim 6, there are outstanding issues of fact as to whether TKAG’s accused devices infringe claims 1 or 10 of the ‘169 Patent.

Defendant TKAG first argues that its accused products do not infringe either claim 1 or claim 6 of the ‘169 Patent because its products do not meet the “negative” voltage limitation that appears in each of these claims. The Court addressed this issue earlier in its consideration of Plaintiffs’ summary judgment motion and Defendant TKH’s response, and need not repeat this analysis here. As explained, issues of fact remain as to whether Defendants’ accused products meet this “negative” voltage limitation of claims 1 and 6.

Defendant TKAG’s next challenge to Plaintiffs’ claim of infringement of the ‘169 Patent is focused on claim 6 alone, a claim which depends from independent claim 1,<sup>34</sup> and which defines the “clocked rectifier” of claim 1 as more specifically comprising:

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<sup>34</sup>As a dependent claim, claim 6 includes all the limitations found in claim 1 — including the “negative” voltage limitation discussed above — plus any additional limitations imposed by virtue of the language of claim 6 itself. Thus, even if TKAG’s accused products were found to infringe claim 1 of the ‘169 Patent — a question as to which, as stated above, issues of fact remain — these products would not necessarily also infringe claim 6, unless they met each of the additional limitations found in this dependent claim.

at least one first amplifier circuit operatively connected to said current-to-voltage converter and a first switch switching said at least one first amplifier circuit between inverting and non-inverting said converter voltage signal so as to provide the inverted and non-inverted copies of said first intermediate voltage signal,

and at least one second amplifier circuit operatively connected to said current-to-voltage converter and a second switch switching said at least one second amplifier circuit between inverting and non-inverting said converter voltage signal so as to provide the inverted and non-inverted copies of said second intermediate voltage signal.

(‘169 Patent, Col. 13 at 47-59.) TKAG contends that its accused devices do not meet these additional limitations found in claim 6 because the devices (i) lack the requisite two amplifier circuits, (ii) lack the requisite two switches, and (iii) do not provide “non-inverted copies” of the first and second intermediate voltage signals. (*See* Defendant TKAG’s Motion, Ex. X, Fultz 5/10/2013 Rebuttal Expert Report at ¶¶ 40-42, 46-48.)

In opposing these arguments, Plaintiffs rely solely on claim charts in which their expert explains his theory of how TKAG’s two accused products<sup>35</sup> meet the limitations of claim 6. (*See* Defendant TKAG’s Motion, Ex. U, Matheson 2/21/2013 Expert Report, Ex. A, Claim Chart at 16-17; Ex. B, Claim Chart at 15-16.) Under this theory, the two amplifier circuits in TKAG’s devices are composed of the same underlying components, with these components performing the function of either the “first” or “second” amplifier circuit depending on which of two signals is activated and which of two switches is in

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<sup>35</sup>The parties refer to these two products as TKAG’s “ASIC” occupant detection system and its “discrete” system, with the difference being that the former product incorporates a THOR ASIC, while the latter product uses discrete detector electronics rather than an ASIC.

use. Through the use of these signals and switches, Plaintiffs maintain that a single set of components in the TKAG devices can act as both the “first” and “second” amplifier circuits called for in claim 6 of the ‘169 Patent.

As Defendant TKAG observes, however, this characterization of the operation of its accused devices appears to be at odds with the plain language of claim 6. The claim expressly calls for “first” and “second” amplifier circuits, and the Federal Circuit has observed that “[t]he use of the terms ‘first’ and ‘second’ is a common patent-law convention to distinguish between repeated instances of an element or limitation.” *3M Innovative Properties Co. v. Avery Dennison Corp.*, 350 F.3d 1365, 1371 (Fed. Cir. 2003). Moreover, Plaintiffs have not appealed to the doctrine of equivalents as a possible means of bridging the gap between a single amplifier circuit being used to perform two functions (as purportedly practiced in TKAG’s accused devices) and two discrete amplifier circuits (as called for in claim 6).

In any event, even assuming that Plaintiffs have identified issues of fact as to whether TKAG’s accused devices meet the “first” and “second” amplifier circuit limitations of claim 6, they have failed to rebut (or even address) the contention of TKAG and its expert that TKAG’s devices are incapable of providing “non-inverted copies” of first and second intermediate voltage signals. According to the claim charts produced by Plaintiffs’ expert, a “band-pass filter” provides these non-inverted voltage signals in TKAG’s accused devices. Yet, Defendants’ expert states without contradiction that a band-pass filter “modifies an input signal,” and does not provide a “copy” of the input

signal as dictated by claim 6. (Fultz 5/10/2013 Rebuttal Expert Report at ¶¶ 41, 47.)

Because TKAG and its expert have asserted that TKAG's accused devices do not meet the "non-inverted copies" limitation of claim 6, and because Plaintiffs have failed to identify any evidence in the record that might call this assertion into question, the Court finds as a matter of law that the accused TKAG devices do not infringe dependent claim 6 of the '169 Patent.

Finally, Defendant TKAG argues that Plaintiffs has failed to produce sufficient evidence to sustain its claim that the accused TKAG products infringe claim 10 of the '169 Patent. The starting point of this argument, as discussed earlier, is the use by Plaintiffs' expert of a figure from TKH's '007 Application as evidence that TKAG's products infringe claim 10. (See Defendant TKAG's Motion, Ex. U, Matheson 2/21/2013 Expert Report, Ex. A, Infringement Chart at 27.) TKAG denies that this figure suffices to establish that its accused devices infringe the fifth and final limitation of claim 10,<sup>36</sup> where this figure "merely shows 'I', 'Q', and a threshold," and thus "is insufficient to prove the method used by the processor to determine the occupancy state." (Defendant TKAG's Motion, Br. in Support at 34.) More specifically, TKAG maintains that this

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<sup>36</sup>As set forth above, the fifth limitation of claim 10 describes the determination of the occupancy state of a vehicle seat by reference to a comparison with a threshold:

wherein said processor determines said occupancy state based upon a comparison of said second signal indicative of said second current component with a threshold, said threshold being dependent upon said first signal indicative of said first current component.

('169 Patent, Col. 14 at 42-46.)

figure does nothing to indicate whether the “threshold” referenced in the figure is “dependent upon said first signal indicative of said first current component,” as required to meet the fifth limitation of claim 10, and it points to the testimony of one of its engineers, Dr. Bender, as purportedly demonstrating that TKAG’s accused devices do not practice this limitation, (*see* Defendant TKAG’s Motion, Ex. V, Bender 1/24/2013 Dep. at 72).

The short answer to this argument is found in the report of TKAG’s own expert, Dr. Fultz. In particular, as an exhibit to his April 22, 2013 expert report, Dr. Fultz prepared a claim chart that purports to demonstrate that “all of the elements of claim 10 of the ‘169 patent are present in the TKH ‘007 application.” (Defendant TKAG’s Motion, Ex. F, Fultz 4/22/2013 Expert Report at ¶ 107.) This claim chart, in turn, describes the figure in question from the ‘007 Application as follows:

Figure 1 depicts the determination of the occupancy state based upon a comparison of the second signal indicative of the second current component (Classification Data for Q) with a threshold, the threshold being dependent upon the first signal indicative of the first current component (Classification Data for I). Threshold increases as I increases.

(Fultz 4/22/2013 Expert Report, Ex. 32, Claim Chart at 2.) This statement from Defendants’ expert surely raises an issue of fact, at least, as to whether a device operating in accordance with the figure from the ‘007 Application meets the fifth limitation of claim 10. Because Dr. Bender has testified that this figure accurately describes how TKAG’s device operates, at least “as a matter of principle,” (Plaintiffs’ Response to Defendant TKAG’s Motion, Ex. R, Bender 1/24/2013 Dep. at 58-59), the Court cannot conclude as a

matter of law that Plaintiffs' reliance on this figure is insufficient to demonstrate that the accused TKAG devices infringe claim 10 of the '169 Patent.<sup>37</sup>

In addition, Plaintiffs observe that they have produced other evidence, apart from the figure in the '007 Application, that TKAG's devices infringe claim 10 of the '169 Patent.<sup>38</sup> In particular, Plaintiffs point to a claim chart in which their expert, Dr. Matheson, analyzed the ASIC used in TKH's product and found that it meets the fifth limitation of claim 10. (*See* Matheson 4/3/2012 Expert Report, Ex. B, Claim Chart at 22 (stating Dr. Matheson's opinion that "the threshold to which the Q data is compared is

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<sup>37</sup>Again, Defendants complain that Plaintiffs seek to "have it both ways," (Defendant TKAH's Motion, Br. in Support at 25 n.19), by relying on the figure from the '007 Application to support their claim of infringement of claim '10 of the '169 Patent, while at the same time denying that this figure establishes that claim 10 was anticipated by the '007 Application. Yet, as explained earlier, it could equally well be said that Defendants wish to "have it both ways," as they rely on the very same figure to show that the '007 Application anticipates claim 10, while at the same time denying that this figure serves as evidence that TKAG's devices infringe claim 10.

To be sure, it might well be true, as Defendants argue, that the figure from the '007 Application cannot properly be used to sustain **both** (i) a finding that TKAG's products infringe claim 10 **and** (ii) a finding that the '007 Application does not anticipate claim 10. The Court faces no such dilemma, however, under the present summary judgment posture of this case. It is perfectly consistent to conclude (as the Court now has) that issues of fact preclude a determination as a matter of law as to **either** of these two issues — namely, whether the '007 Application anticipates claim 10, and whether TKAG's accused devices infringe claim 10. As discussed, these factual issues include (i) whether the figure in the '007 Application accurately depicts the operation of TKAG's accused devices, (ii) whether this figure, by itself, discloses the fifth limitation of claim 10, and (iii) whether other evidence produced by Plaintiffs, apart from this figure, could suffice to show that TKAG's devices infringe claim 10.

<sup>38</sup>As noted by Defendants, much of the "other evidence" cited by Plaintiffs as purportedly supporting their position that TKAG's devices meet the fifth limitation of claim 10 has no apparent bearing on this issue. It is difficult to say for certain, however, where Plaintiffs have (i) cited lengthy documents without directing the Court's attention to particular pages that might address the pertinent issue, and (ii) produced documents written in German without any translation or explanation of what they might show.



depend[e]nt upon the I value”).) As Plaintiffs point out, Defendants have acknowledged that TKH’s and TKAG’s products use the same ASIC. (*See* Binder 1/24/2013 Dep. at 59; *see also* Defendant TKAG’s Motion, Br. in Support at 29 n.20.) Thus, with respect to TKAG’s ASIC device, at least, this evidence raises an issue of fact as to whether the device meets the fifth limitation of claim 10.

**D. Plaintiffs Have Demonstrated as a Matter of Law That Their BodySense Product Does Not Infringe the Asserted Claims of the ‘306 Patent.**

The remaining issues raised in the parties’ pending summary judgment motions concern the four patents that Defendant TKH accuses Plaintiffs’ BodySense product of infringing. Beginning with U.S. Patent No. 7,180,306 (the “‘306 Patent”), the asserted claims of this patent address the incorporation of two “reference capacitors” into a capacitive occupant detection system in order to correct for inaccuracy in measurement due to such factors as drift over time, environmental conditions, and measurement system gain. (*See* Plaintiffs’ Motion, Ex. B, ‘306 Patent, Col. 7:50-8:3.) Specifically, claim 6 of the ‘306 Patent — the only asserted independent claim of the patent — provides:

An occupant detection system in the seat of a vehicle, comprising:

at least one electrode;

a first reference capacitor;

a second reference capacitor; and

a sensing circuit comprising a plurality of states, wherein in a first state said sensing circuit is operatively coupled to at least one said electrode so as to provide for generating a first signal responsive to the capacitance of said at least one said electrode, in a second state said sensing circuit is operatively

coupled to said first reference capacitor so as to provide for generating a second signal responsive to the capacitance of said first reference capacitor, in a third state said sensing circuit is operatively coupled to said second reference capacitor so as to provide for generating a third signal responsive to the capacitance of said second reference capacitor, and said sensing circuit is adapted to provide for generating a measure responsive to the capacitance of said at least one said electrode responsive to said first signal, said second signal, and said third signal.

(‘306 Patent, Col. 21 at 3-23.)

In support of its allegations that Plaintiffs’ BodySense device infringes claim 6 of the ‘306 Patent — as well as claims 7, 8, and 9 that depend from claim 6 — Defendant TKH identifies two capacitors in the BodySense product, capacitor C121 and capacitor C143, that purportedly meet each of the limitations set forth in claim 6 for the first and second reference capacitors. Plaintiffs, on the other hand, insist that their BodySense device “has no temperature drift problem and therefore has no need for the ‘second state’ and ‘third state’ required by the ‘306 claims.” (Plaintiffs’ Motion, Br. in Support at 12.) Both TKH and Plaintiffs seek summary judgment in their favor on the question whether the BodySense product infringes claims 6 through 9 of the ‘306 Patent. As discussed below, the Court finds as a matter of law that capacitor C143 does not meet the limitations of the second reference capacitor,<sup>39</sup> and it follows that Plaintiffs’ BodySense product does not infringe the ‘306 Patent.

As stated above, claim 6 of the ‘306 Patent requires a “third state” in which the

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<sup>39</sup>In light of this determination, the Court does not reach the parties’ arguments concerning capacitor C121.

sensing circuit is “operatively coupled to said second reference capacitor so as to provide for generating a third signal responsive to the capacitance of said second reference capacitor.” Defendant TKH contends that capacitor C143 in Plaintiffs’ BodySense product meets this limitation of a “second reference capacitor” that is “operatively coupled” to the sensing circuit. Yet, as Plaintiffs point out, “only one terminal of C143 is attached to the BodySense product’s circuitry,” and thus “C143 is not an operational part of the BodySense product as it is shipped.” (Matheson 5/3/2012 Rebuttal Report at ¶ 82.) Defendant TKH’s expert agrees on this point, acknowledging that in the complete BodySense product, “one node of capacitor C143 is left floating, *i.e.*, one end of capacitor C143 is not further connected to anything.” (Plaintiffs’ Motion, Ex. AA, Fultz 4/2/2012 Expert Report at ¶ 74; *see also* Plaintiffs’ Motion, Ex. Z, Fultz 5/23/2011 Dep. at 153-54.) Under this record, Plaintiffs have demonstrated as a matter of law that their BodySense product does not meet the claim 6 limitation of a “second reference capacitor” that is “operatively coupled” to the sensing circuit.

In an effort to avoid this result, Defendant TKH and its expert point to a “fingerprinting process” conducted by a third-party supplier that provides the printed circuit boards (“PCBs”) used in Plaintiffs’ BodySense product. During this process, as described by TKH’s expert, both ends of C143 are connected and two measurements are performed, and the resulting measurements are “used to create fingerprinting calibration parameters” that are stored in memory “at the completion of the fingerprinting process.” (Fultz 4/2/2012 Expert Report at ¶ 73.) This stored value is then recalled from memory

and used during the operation of the BodySense product. (*See id.* at ¶¶ 79, 83-85.) In TKH’s view, because C143 is used as a “reference capacitor,” if only during the manufacturing process, and the result of this use is stored and employed as a reference during the operation of the BodySense device, C143 meets the claim 6 limitation of a “second reference capacitor,” either literally or under the doctrine of equivalents.

As Plaintiffs observe, however, this appeal to C143’s use in a “fingerprinting process” as meeting the “second reference capacitor” limitation of claim 6 suffers from a number of deficiencies. First, infringement of a U.S. patent must rest upon “activities in the United States,” and extraterritorial activities play no role in this infringement inquiry. *Rotec Industries, Inc. v. Mitsubishi Corp.*, 215 F.3d 1246, 1251 (Fed. Cir. 2000). It is undisputed, however, that the fingerprinting process cited by TKH and its expert is conducted outside of the United States by Plaintiffs’ PCB supplier. To be sure, TKH notes the recognition in the case law that “[e]ven if an infringing product is manufactured outside of the United States, a person infringes if he imports the product, or uses, offers to sell, or sells it in the United States.” *Gemtron Corp. v. Saint-Gobain Corp.*, 572 F.3d 1371, 1380 (Fed. Cir. 2009). Yet, as explained, by the time the complete BodySense product is actually offered for sale, sold, or used in the United States, the C143 capacitor is no longer “operatively coupled” in the device. In other words, even assuming that the fingerprinting process employed by Plaintiffs’ PCB supplier could be viewed as the assembly of an “infringing product” during the course of this process, this process is performed wholly outside the United States, and the final BodySense product that

Plaintiffs sell and offer for sale in the United States is no longer this same “infringing product,” as the C143 capacitor is no longer operationally connected.

In any event, the notion that Plaintiffs’ PCB supplier might be viewed as assembling an “infringing product” is belied by the record. As acknowledged by TKH’s expert, capacitor C143 is coupled to the BodySense ASIC only “during ICT in-circuit test[ing],” and this process uses only a PCB and not the complete BodySense product. (Fultz 5/23/2011 Dep. at 153-54.) In addition, Plaintiffs’ PCB supplier uses a relay during this process that is not part of the PCB and “does not remain with the BodySense electronics physically” once this process is completed. (*Id.* at 155, 161.) Accordingly, even if Plaintiffs’ PCB supplier performed its fingerprinting process in the United States, the Court agrees with Plaintiffs that this would involve only (i) a BodySense component (a PCB), rather than the full BodySense product, (ii) that has itself been temporarily altered (through the connection of a relay) from the form in which it is used in the final BodySense device. This temporary use of a single, altered BodySense component does not evidence infringing activity, no matter where it occurred.

Finally, TKH suggests that because the “measured value” of C143 is “stored in BodySense” during the fingerprinting process and then “recalled repetitively to be used as a reference” in the actual operation of Plaintiffs’ BodySense product, the “value stored in memory” should be deemed “the same as actually making the measurement of C143” during BodySense operation, and the BodySense product should therefore be found to infringe claim 6 of the ‘306 Patent under the doctrine of equivalents. (Defendant TKH’s

Reply Br. at 11.) As Plaintiffs observe, however, TKH failed during discovery to allege infringement under the doctrine of equivalents, (*see* Plaintiffs’ Motion, Ex. V, Defendant TKH’s Fifth Supplemental Response to Plaintiffs’ First Interrogatory at 6), and it is too late now to inject a new theory of recovery into this litigation.<sup>40</sup> In any event, the conclusory assertion of TKH’s counsel — without citation to the record or any effort at developed argument — that a “value stored in memory is the same as actually making the measurement of C143,” (Defendant TKH’s Reply Br. at 11), provides an insufficient basis for this Court to undertake a meaningful inquiry as to the myriad factors involved in the “technical issue of equivalency,” *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 1327 (Fed. Cir. 1992); *see also Dillery v. City of Sandusky*, 398 F.3d 562, 569 (6th Cir. 2005) (explaining that “issues adverted to in a perfunctory manner, unaccompanied by some effort at developed argument, are deemed waived” (internal quotation marks and citations omitted)).

**E. Plaintiffs Have Demonstrated as a Matter of Law That They Do Not Induce or Contribute to the Infringement of the Asserted Claims of the ‘674 Patent.**

Plaintiffs and Defendant TKH next seek a determination as a matter of law as to whether Plaintiffs either induce or contribute to the infringement of claims 13 and 16 through 18 of U.S. Patent No. 7,098,674 (the “‘674 Patent”) when Plaintiffs’ BodySense product is installed and used in a vehicle with a seat heater. To sustain its claims of either

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<sup>40</sup>Indeed, TKH also failed to appeal to the doctrine of equivalents in its initial brief in support of its summary judgment motion, but instead waited until its reply brief to advance this alternative theory of infringement.

inducement of infringement or contributory infringement, TKH must establish as a threshold matter that Plaintiffs' customers directly infringe the asserted claims of the '674 Patent. *See DSU Medical Corp. v. JMS Co.*, 471 F.3d 1293, 1303 (Fed. Cir. 2006). Plaintiffs contend that TKH has failed as a matter of law to make this threshold showing of direct infringement, and the Court agrees.

The other asserted claims of the '674 Patent all depend from claim 13, which reads as follows:

An occupant sensor for sensing an occupant in a seat, wherein said seat incorporates a seat heater, said occupant sensor comprising:

- a) a heating element positioned in said seat;
- b) a first electrode located between said heating element and a seating region of said seat;
- c) a second electrode located between said heating element and said first electrode;
- d) a first signal operatively coupled to said first electrode; and
- e) a second signal operatively coupled to said second electrode, wherein said first signal is an oscillating or pulsed signal, and said second signal is substantially equal to said first signal.

(Plaintiffs' Motion, Ex. C, '674 Patent, Col. 16 at 27-40.) All are agreed that Plaintiffs' BodySense product, by itself, does not include a heating element, and therefore does not directly infringe claim 13 of the '674 Patent. (*See* Plaintiffs' Motion, Ex. Z, Fultz 5/23/2011 Dep. at 50; *see also* Defendant TKH's Motion, Br. in Support at 26 ("IEE's BodySense product alone meets all of the limitations of claim 13 except for the heating

element limitation.”)) Indeed, TKH’s expert concedes that even when Plaintiffs’ product is installed in a vehicle seat with a seat heater, “BodySense itself does not contain a heating element.” (Fultz 5/23/2011 Dep. at 50.) Rather, TKH’s theory of infringement of the ‘674 Patent rests on the premise that Plaintiffs indirectly infringe the asserted claims when their BodySense product is used in a vehicle seat with a seat heater. (*See* Defendant TKH’s Motion, Br. in Support at 25-26.)

Try as it might, however, Defendant TKH cannot explain how the BodySense device when installed in a vehicle with a seat heater meets each of the limitations of claim 13. This claim, after all, requires an “occupant sensor *comprising* . . . a heating element,” among other elements, and not merely an occupant sensor existing *alongside* a heating element in the same vehicle seat. Under the plain language of claim 13, the heating element is one of the required elements of the “*occupant sensor* for sensing an occupant in a seat.” Yet, no matter how it is installed — whether in a seat with or without a seat heater — Plaintiffs’ BodySense product does not include a heating element, as TKH’s expert recognizes. (*See* Fultz 5/23/2011 Dep. at 50.) Dr. Fultz further acknowledges that BodySense does not use a seat’s heating element in any way for occupant detection; rather, a heating element, if present, is just one more aspect of the “underlying seat structure” and environmental conditions that BodySense — or, more specifically, the guard electrode within BodySense — seeks to account for, and minimize the effects of, in determining the type of seat occupant. (*See id.* at 51, 53-54.)

Thus, as Plaintiffs observe, TKH can sustain its claim of infringement of claim 13



only if it is able to “persuade the Court to ‘construe’ . . . claim 13 to cover a seat with a heating element combined with an ‘occupant sensor’ comprising only the four electrodes/signals” set forth in the remainder of the claim. (Plaintiffs’ Motion, Br. in Support at 22.) TKH faces an especially uphill battle in this claim construction effort, where the record reveals that TKH gave up precisely this claim during the prosecution of the application for the ‘674 Patent. In particular, claim 13 as originally proposed began with the preamble of an “occupant sensor for sensing an occupant in a seat, wherein said *seat* incorporates a conductive heating element,” and then set forth the four electrode/signal limitations found in claim 13 as issued. (Plaintiffs’ Motion, Ex. HH, Appl. No. 10/707,238, Claim 13 (emphasis added).) The PTO rejected this claim in a December 14, 2004 office action, (*see* Plaintiffs’ Motion, Ex. GG, 12/14/2004 Office Action Summary at 3), and TKH then amended the claim to read as it does in the issued ‘674 Patent, (*see* Defendant TKH’s Motion, Ex. S, 3/14/2005 Response to Office Action at 4). As TKH recognizes, the effect of this amendment was “to make the ‘heating element’ a claim limitation, as opposed to reciting it in the preamble of the claims.” (Defendant TKH’s Motion, Br. in Support at 24.) As a claim limitation, this heating element must be *part* of the occupant sensor claimed as the invention. It is not enough that the heating element *coexist* with the occupant sensor in the vehicle seat, because that is precisely the claim that TKH gave up in patent prosecution. As the Supreme Court has emphasized, “a claim in a patent as allowed must be read and interpreted with reference to claims that have been cancelled or rejected and the claims allowed cannot by

construction be read to cover what was thus eliminated from the patent.” *Schriber-Schroth Co. v. Cleveland Trust Co.*, 311 U.S. 211, 220-21, 61 S. Ct. 235, 239 (1940). Consequently, the Court cannot accept TKH’s proposed reading of claim 13 as covering an occupant sensor installed in a seat that also incorporates a heating element.

This leaves only TKH’s contention that Plaintiffs’ proposed construction of claim 13 should be viewed with skepticism since it purportedly fails to cover any of the embodiments disclosed in the patent. *See Adams Respiratory Therapeutics, Inc. v. Perrigo Co.*, 616 F.3d 1283, 1290 (Fed. Cir. 2010) (citing the principle that “[a] claim construction that excludes the preferred embodiment is rarely, if ever, correct” (internal quotation marks and citation omitted)). This argument, however, rests upon a mischaracterization of Plaintiffs’ reading of claim 13 as demanding two distinct heating elements, one in the seat heater and one in the occupant sensor. (*See* TKH’s Motion, Br. in Support at 26-27.) In fact, Plaintiffs do not read claim 13 as requiring a separate heating element in addition to the heating element in the seat heater; they contend only that under the plain language of claim 13, the heating element (whether separate or the same one used in the seat heater) must be part of the occupant sensor. (*See* Plaintiffs’ Br. in Response to Defendant TKH’s Motion at 24.) While TKH submits that this interpretation cannot be squared with the embodiments set forth in the patent, all of which “describe the heating element as a part of the seat heater in the seat,” (Defendant TKH’s Br. in Response to Plaintiffs’ Motion at 17), the Court sees nothing in the descriptions or figures cited by TKH that is inconsistent with the requirement that the heating element be

considered a part of the occupant sensor; figure 2, for example, simply depicts various components, such as a heating element and electrodes, without delineating which of these components are a part of or exist separately from the occupant sensor.

Consequently, the Court agrees with Plaintiffs that under the plain language of claim 13, an accused “occupant sensor” must include a heating element, and not merely coexist with one. Because Plaintiffs’ BodySense product does not include a heating element, it cannot infringe claim 13 of the ‘674 Patent, even when it is installed in a seat with a heating element. In the absence of such direct infringement when Plaintiffs’ device is installed in a seat with a seat heater, Defendant TKH’s theories of indirect infringement cannot succeed. *See DSU Medical Corp.*, 471 F.3d at 1303.

**F. Plaintiffs Have Demonstrated as a Matter of Law That Their BodySense Product Does Not Infringe the Asserted Claims of the ‘023 and ‘765 Patents.**

Finally, Plaintiffs argue in their motion that as a matter of law, their BodySense product does not infringe the asserted claims of U.S. Patent No. 6,577,023 (the “‘023 Patent”) or U.S. Patent No. 6,825,765 (the “‘765 Patent”).<sup>41</sup> As the parties agree, all but one of the asserted claims of these two patents — *i.e.*, claims 1, 10, 29 and 35 of the ‘023 Patent, and claims 1 and 5 (but not claim 11) of the ‘765 Patent — require a “weight sensor” or the generation of a “measure of weight.” Citing the testimony of their program

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<sup>41</sup>In contrast to its claims of infringement of the ‘306 Patent and the ‘674 Patent, Defendant TKH does not contend in its motion that it is entitled to an award of summary judgment in its favor as to Plaintiffs’ alleged infringement of the ‘023 Patent and the ‘765 Patent. Rather, it argues, in opposition to Plaintiffs’ motion, that issues of fact remain as to whether Plaintiffs’ BodySense product infringes the asserted claims of these latter two patents.

manager, Darren Khan, Plaintiffs maintain that their BodySense product lacks any such weight sensor, nor does it measure the weight of an object on a vehicle seat. As for claim 11 of the ‘765 Patent, Plaintiffs contend that their BodySense device does not meet the limitation of this claim requiring that a sensing circuit generate “a second measure responsive to a capacitance of said second electrode.” (Plaintiffs’ Motion, Ex. E, ‘765 Patent, Col. 22 at 20-21.) As discussed below, the Court agrees on both scores.

In support of their argument that their BodySense product lacks the “weight sensor” or measurement of weight called for under the asserted claims of the ‘023 and ‘765 Patents, Plaintiffs point to tests conducted by their employees and their expert in which boxes of paper were stacked on a vehicle seat and the BodySense device nonetheless registered the seat as empty. Defendant TKH submits that the materials submitted by Plaintiffs to prove these test results suffer from a number of evidentiary defects that should preclude the Court from considering them.<sup>42</sup> In addition, TKH maintains that these test results are irrelevant because they show only that BodySense does not use the weight of an occupant under *some* circumstances, not that BodySense disregards the weight of an occupant under *all* circumstances.

Although the Court agrees with TKH that the test results submitted by Plaintiffs

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<sup>42</sup>TKH notes, for example, that Mr. Khan reports on the results of one such test in an affidavit, even though the test was actually performed by another IEE employee and not Mr. Khan. Consequently, Mr. Khan presumably lacks personal knowledge of the test and its outcome, *see* Fed. R. Civ. P. 56(c)(4) (requiring that an affidavit used to support a summary judgment motion “must be made on personal knowledge”), and his report of the test results is hearsay that the Court may not consider in ruling on Plaintiffs’ motion, *see U.S. Structures*, 130 F.3d at 1189.

are largely irrelevant and likely inadmissible, TKH nonetheless has failed to point to evidence in the record that would raise a genuine issue of material fact as to whether BodySense has the requisite weight sensor or measures the weight of a seat occupant. As noted, Plaintiffs' program manager has flatly stated that the BodySense product does not include a weight sensor and does not measure the weight of a seat occupant. (*See* Plaintiffs' Motion, Ex. EE, Khan Decl. at ¶ 6; Ex. G, Khan 1/25/2012 Dep. at 169.) Faced with this evidence, TKH may withstand summary judgment only by identifying evidence in the record that could support a contrary conclusion.

TKH has failed to do so. First, TKH points to BodySense documents and source code that include such phrases as "[w]eight [m]easurements," "[w]eight [r]anges," and "weight factors." (TKH's Response to Plaintiffs' Motion, Ex. M at IEE048496; Ex. N at IEE655333; Ex. O at IEE655980.) As Plaintiffs observe, however, the Court's infringement inquiry is governed "by how the accused device actually operates, not by isolated words in documents that do not describe how the device operates," (Plaintiffs' Reply Br. at 9), and TKH has cited no testimony or other evidence explaining how the cited materials would tend to show that BodySense includes a weight sensor or measures the weight of seat occupants.<sup>43</sup> Similarly, while TKH states that the use of weight factors in the BodySense source code is "consistent with the principles of dynamic weight

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<sup>43</sup>To the contrary, Plaintiffs have cited evidence that, for example, the document included as exhibit M to TKH's response addressed an experimental study that was never adopted, (*see* Ex. M at IEE048482), and that the "weight factors" referenced in the BodySense source code do not relate to the physical weight of an occupant, (*see* Fultz 5/23/2011 Dep. at 190).

sensing,” (Defendant TKH’s Br. in Response to Plaintiffs’ Motion at 23), and while it cites the report and deposition testimony of its expert describing how such dynamic weight sensing could be performed in BodySense, (*see* Fultz 4/2/2012 Expert Report at ¶¶ 93-95, 97-98; Fultz 5/23/2011 Dep. at 190-91), Plaintiffs aptly explain that “[t]his unsupported expert testimony concerning what BodySense allegedly ‘can’ do falls woefully short of proving that BodySense actually measures weight or has a weight sensor,” (Plaintiffs’ Motion, Br. in Support at 30). Indeed, Dr. Fultz expressly acknowledged that his understanding of the use of various parameters in source code to perform dynamic weight sensing was based on “algorithms that I’ve looked at in patents,” and that he did not “have all the information needed to fully understand the [BodySense] source code” that would enable him to opine whether BodySense actually performs this operation. (Fultz 5/23/2011 Dep. at 190-91.)

This leaves only the general discussion in TKH’s response brief about the use of weight sensors to “address an electrical device problem” and eliminate “false positives,” followed by the assertion that, under certain circumstances, Plaintiffs’ BodySense product “analyzes the variance to determine if the weight of the person in the seat is sufficient so as not to be a false positive.” (Defendant TKH’s Br. in Response to Plaintiffs’ Motion at 23-24.) The problem with all this, of course, is that it is merely the argument of counsel, unbacked by any citation to record evidence indicating that BodySense actually operates in the described fashion. Because the record is devoid of evidence that Plaintiffs’ BodySense product has a weight sensor or measures the weight of a seat occupant,

Plaintiffs are entitled to an award of summary judgment in their favor as to their product's non-infringement of the asserted claims of the '023 Patent and claims 1 and 5 of the '765 Patent.

Turning, finally, to claim 11 of the '765 Patent, Plaintiffs assert that TKH has produced no evidence that BodySense meets the limitation of this claim calling for a sensing circuit that generates "a second measure responsive to a capacitance of said second electrode."<sup>44</sup> In response, TKH cites the opinion of its expert that "BodySense's sensing circuit . . . performs a variety of diagnosis measurements," including a "measurement of the interruption circuit," and that "[w]hen measuring the interruption circuit, the ASIC measures a responsive signal through the guard electrode." (Fultz 4/2/2012 Expert Report at ¶ 66.) In TKH's view, this measurement meets the claim 11 limitation of a "second measure responsive to" a second electrode, the guard electrode. (Defendant TKH's Br. in Response to Plaintiffs' Motion at 24-25.)

Yet, as TKH recognizes, the claim language requires a "second measure responsive to *a capacitance* of" a second electrode, and not merely a "second measure responsive to" a second electrode. While TKH seeks to dismiss this difference as mere

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<sup>44</sup>The complete claim limitation reads as follows:

a sensing circuit operatively coupled to said first and second electrodes, wherein said sensing circuit generates a first measure responsive to a capacitance of said first electrode and said sensing circuit generates a second measure responsive to a capacitance of said second electrode

('765 Patent, Col. 22 at 15-20.)

“semantics,” (Defendant TKH’s Br. in Response to Plaintiffs’ Motion at 25), the proper construction of a claim surely turns on such “semantic” choices to phrase the claim’s limitations in a particular way. Here, the pertinent limiting language of claim 11 dictates a “second measure responsive to a capacitance” of a second electrode, and TKH fails to suggest any basis for reading the reference to “capacitance” out of the claim. To the contrary, Plaintiffs’ expert states without contradiction that the diagnostics measurements cited by TKH’s expert are intended to verify that “the electrode is working properly,” and are not responsive to the capacitance of the electrode. (Matheson 5/3/2012 Rebuttal Report at ¶ 4.)<sup>45</sup> Accordingly, the Court finds as a matter of law that Plaintiffs’

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<sup>45</sup>TKH seeks to raise an issue of fact on this point by citing, without explanation, the following testimony of Dr. Fultz when asked how the diagnostics measurements performed by BodySense support his view that this product meets the “second measure” limitation of claim 11:

A: Okay, it generates a measure relative to each of the sense electrodes. So we’ve already established one is in a normal measurement mode where I’m sensing the occupant relative to the top electrode. And the second can be defined as — and the report was defined as the current leakage through the guard sense.

If you look at the effects of capacitive dynamic, capacitive loading of that bottom guard or the fact that what’s not shown in this that is part of the operational schematics is you actually have, I believe, an inductor and capacitor across that diode in some fashion.

So you’re supplying current, and there is a[n] occupant-dependent variation to that current as you’re going down the road.

(Fultz 5/23/2012 Dep. at 200.) If this deposition testimony supports the notion that BodySense’s sensing circuit generates a “second measure responsive to a capacitance of said second electrode,” the Court confesses that it is at a loss to see how — or even to understand the point that Dr. Fultz might be making — and TKH provides no assistance to the Court on this score.



BodySense product does not infringe claim 11 of the ‘765 Patent.<sup>46</sup>

**G. Issues of Fact Remain as to Plaintiffs’ Challenges to the Validity of the ‘306 and ‘674 Patents, and the Parties Have Failed to Develop Their Arguments as to Whether the Asserted Claims of These Patents Are Indefinite.**

As the final issues raised in the parties’ pending motions, Defendant TKH seeks a ruling in its favor as a matter of law as to Plaintiffs’ contentions (i) that claim 6 of the ‘306 Patent is invalid as anticipated or as obvious, (ii) that claim 13 of the ‘674 Patent is invalid as anticipated, and (iii) that the asserted claims of the ‘306 and ‘674 Patents are indefinite. The Court need not dwell on these issues, as the parties’ discussion of them (at the tail end of lengthy briefs) is perfunctory and fails to identify a basis for the Court to resolve these issues as a matter of law.

Turning first to TKH’s requests for summary judgment that certain claims of the ‘306 and ‘674 Patents are not anticipated or invalid for obviousness, it is striking that TKH offers *virtually no record support or authority whatsoever* for the various assertions made in its brief as to relevant technical principles and the supposed characteristics of the prior art references identified by Plaintiffs as the bases for their invalidity challenges. As just a few of many examples, counsel for TKH asserts (i) that the so-called “Lyyra” reference “is directed towards a system for ‘radiosondes,’ which are weather balloons used to measure atmospheric pressure,” (ii) that because Lyyra “fails to

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<sup>46</sup>Having now awarded summary judgment in Plaintiffs’ favor on each of the claims of infringement asserted against them by Defendants, the Court need not address Plaintiffs’ argument that they have not willfully infringed any asserted claims of any of TKH’s patents-in-suit.

teach an occupant detection system,” it “would not meet limitations in the body of” claim 6 of the ‘306 Patent, (iii) that Lyyra does not qualify as prior art because it “aims to accurately measure temperature and pressure in a weather balloon,” (iv) that there is “no motivation to combine Lyyra with the teachings of” another prior art reference because “[t]he position of an observed item is not the same thing as an occupant detection system,” (v) that another prior art reference, “FR ‘548,” discloses “Electric Guards” that are “structurally and technically different” from the “Driven Shields” depicted in a figure in the report of Plaintiffs’ expert, (vi) that the guard layers depicted in FR ‘548 “are coupled to ground or ‘ground planes,’” which is “the precise opposite of driving them with a signal,” and (vii) that a figure in FR ‘548 discloses that certain electrode elements are “located in the same plane,” in contrast to the analogous elements in claim 13 of the ‘674 Patent. (Defendant TKH’s Motion, Br. in Support at 29-32.) The Court declines TKH’s tacit invitation to search the voluminous record for evidence that might support these assertions, and to then combine this record with various pertinent electrical engineering and other technical principles — all of which lie outside the Court’s expertise — to determine whether TKH is entitled to a ruling in its favor on Plaintiffs’ invalidity challenges.<sup>47</sup>

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<sup>47</sup> Although TKH eventually identifies support for at least some of its assertions by citing to passages from its expert’s rebuttal report, (*see* TKH’s Reply Br. at 13-14), the Court declines to consider these arguments that are appropriately formulated and supported for the first time in TKH’s reply brief. *Sundberg v. Keller Ladder*, 189 F. Supp.2d 671, 682-83 (E.D. Mich. 2002) (“[I]t is not the office of a reply brief to raise issues for the first time.”). In any event, these citations would merely give rise to a “battle of the experts” as to the proper characterization of the prior art, and this is a matter that must be left for the trier of fact to resolve.

Finally, TKH and Plaintiffs debate whether the asserted claims of the ‘306 and ‘674 Patents are invalid as indefinite. In support of its position that the claims are not indefinite, TKH states in conclusory fashion (i) that these claims are “[s]imilar[]” to the claims upheld against an indefiniteness challenge in *Microprocessor Enhancement Corp. v. Texas Instruments Inc.*, 520 F.3d 1367, 1374-75 (Fed. Cir. 2008), and (ii) that the language of these claims “is typical and similar claims are routinely held to be valid.” (Defendant TKH’s Motion, Br. in Support at 33 (footnote with string citation of cases omitted).) For their part, Plaintiffs argue that the claims at issue are invalid under the authority of two Federal Circuit decisions that “held similar ‘mixed class’ claims invalid as indefinite,” (Plaintiffs’ Br. in Response to Defendant TKH’s Motion at 32 (citations omitted)), but they do not elaborate on this assertion, other than to observe that the occupant detection system and occupant sensor disclosed in the asserted claims require states and signals that can exist only when the devices are powered on and in use — something which, as Defendant TKH points out, can equally well be said of “any electrical circuit,” (Defendant TKH’s Reply Br. at 15). Plaintiffs further point to the report of their expert as purportedly bolstering their position that the claims are indefinite, while conceding earlier in the very same page of their brief that indefiniteness is a question of law. (*See* Plaintiffs’ Br. in Response to Defendant TKH’s Motion at 33.)<sup>48</sup>

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<sup>48</sup>To demonstrate that their expert did not offer a legal opinion, Plaintiffs cite the testimony of their expert that he was not offering a legal opinion. (*See* Plaintiffs’ Br. in Response to Defendant TKH’s Motion at 33 n.8 (citing Matheson 5/15/2012 Dep. at 58).) Plaintiffs fail to suggest what expertise or background their expert might possess that would enable him to make this assessment.

In the Court's view, these arguments for and against indefiniteness are makeweight positions the parties have tacked onto the end of their briefs, apparently for the sake of some notion of "completeness." The parties' arguments are undeveloped, leaving the Court largely to its own devices in determining how the claims in question should be analyzed under the pertinent Federal Circuit case law governing indefiniteness. Under these circumstances, the Court declines to do the work of the parties in fashioning arguments as to whether the asserted claims of the '306 and '674 Patents are or are not invalid as indefinite.<sup>49</sup>

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<sup>49</sup>The Court notes that there is even less of a compelling need to rule on this question of indefiniteness, where the Court has already concluded as a matter of law that Plaintiffs' accused BodySense product does not infringe any of the asserted claims of the patents at issue.

#### **IV. CONCLUSION**

For the reasons set forth above,

NOW, THEREFORE, IT IS HEREBY ORDERED that Plaintiffs' September 21, 2012 motion for summary judgment (docket #324) is GRANTED IN PART, to the extent that Plaintiffs seek an award of summary judgment in their favor as to their accused products' non-infringement of the asserted claims of the '306, '674, '023 and '765 patents, and is otherwise DENIED.

Next, IT IS FURTHER ORDERED that Defendant TKH's September 21, 2012 motion for partial summary judgment (docket #326) is DENIED.

Finally, IT IS FURTHER ORDERED that Defendant TKAG's July 1, 2013 motion for partial summary judgment (docket #456) is GRANTED IN PART, to the extent that

TKAG seeks an award of summary judgment in its favor as to its accused products' non-infringement of claim 6 of the '169 patent, and is otherwise DENIED.<sup>50</sup>

s/Gerald E. Rosen  
Chief Judge, United States District Court

Dated: October 23, 2014

I hereby certify that a copy of the foregoing document was served upon the parties and/or counsel of record on October 23, 2014, by electronic and/or ordinary mail.

s/Julie Owens  
Case Manager, (313) 234-5135

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<sup>50</sup>In light of the many rulings in this lengthy opinion and order, the Court finds it helpful to summarize the claims and counterclaims that the parties may continue to pursue in the wake of these rulings. Plaintiffs may go forward with (i) their Count One claim against Defendant TKH of infringement of the '169 Patent, and (ii) their Count Two claim against Defendant TKAG of infringement of claims 1 and 10 of the '169 Patent, but not (iii) their Count Two claim against Defendant TKAG of infringement of claim 6 of the '169 Patent. In addition, Plaintiffs have established as a matter of law that they are entitled to the declaratory judgments of non-infringement sought in Counts Three ('023 Patent), Four ('765 Patent), Five ('306 Patent), and Six ('674 Patent) of their second amended complaint, and they may continue to pursue their claims in Counts Three through Six that each of these four patents asserted by Defendant TKH is invalid on one or more grounds.

Turning to the counterclaims asserted by Defendants TKH and TKAG, the infringement claims asserted in Counts 1 through 4 of Defendant TKH's Counter-Complaint are subject to dismissal, but Defendant TKH may proceed with its Count 5 request for a declaratory judgment of non-infringement and/or invalidity of the '169 Patent. Finally, Defendant TKAG has established its entitlement to a declaration of non-infringement as to claim 6 of the '169 Patent, and it may proceed with its Count 1 request for a declaratory judgment as to (i) its non-infringement of the remaining asserted claims of the '169 Patent, and (ii) the invalidity of the asserted claims of the '169 Patent.